



United States Circuit Court of Appeals
TENTH CIRCUIT.

No. 2550.

COLORADO INTERSTATE GAS COMPANY,
a corporation, PETITIONER,

vs.

**FEDERAL POWER COMMISSION; CITY AND COUNTY
OF DENVER, COLORADO; PUBLIC SERVICE
COMMISSION OF WYOMING; COLORADO-WYO-
MING GAS COMPANY; and CANADIAN RIVER
GAS COMPANY, RESPONDENTS.**

No. 2551.

CANADIAN RIVER GAS COMPANY, a corporation,
PETITIONER,

vs.

**FEDERAL POWER COMMISSION; CITY AND COUNTY
OF DENVER, COLORADO; PUBLIC SERVICE
COMMISSION OF WYOMING; COLORADO-WYO-
MING GAS COMPANY; PUBLIC SERVICE COM-
PANY OF COLORADO; and COLORADO INTER-
STATE GAS COMPANY, RESPONDENTS.**

ON PETITION TO REVIEW AND SET ASIDE ORDERS OF THE
FEDERAL POWER COMMISSION.

FILED SEPTEMBER 9, 1942.

VOLUME 4—Pages 1821-2400

Further Testimony of the Company's WITNESS, LUSK.

Q. Mr. Lusk, have you prepared a statement at my request relating to Colorado Interstate Gas Company entitled "Past and Future Net Operating Earnings from Denver Line Sales of All Gas Applicable to Depreciation, Amortization and Return, 1928 to 1947, inclusive"?

A. Yes, sir.

(Vol XLVIII, p. 6598.)

Q. Now, turning back to your Statement 1 of the exhibit, the figures under Column 4, where do you get them? How do you arrive at those figures?

A. The difference between Column 2 and Column 3—in other words, it is Column 3 subtracted from Column 2.

Q. That give you the total net earnings?

A. That is correct.

Q. You projected those beyond 1940, didn't you?

A. They are projected—

Q. They are just mere calculations?

A. Yes, sir.

Q. Now, this total net earning figure, when you get to that point on Statement 1—strike that.

In what manner do you treat depreciation? Isn't that a cost of operation?

A. Not for this purpose.

Q. What purpose do you mean?

A. For this purpose here I am trying to find the amount which is available for depreciation and amortization.

Q. You don't consider depreciation as an operating expense?

A. No, sir.

Q. And you can leave it out of the computation of your net earnings?

A. Well, the computation of the net earnings doesn't include the depreciation. If I put the computed depreciation amount that is arrived at here back in a deduction in the net earnings column I would still come out in Column 5, that is, at the eight per cent return.

Q. But you left out the consideration of depreciation in

the computation of your net earnings in Column 4, Statement 1?

A. That is correct, I have.

Q. Have you taken into consideration in doing that what the Uniform System of Accounts provides for with reference to depreciation?

A. I haven't considered the Uniform System of Accounts in any portion of this exhibit?

Q. At all?

A. At all.

Q. So you arrived at your net earnings and then only in Column 6 as a matter of pure calculation where you set up the amounts that you say will at that point be available for depreciation and amortization?

A. That is correct.

Q. How did you say you arrived at the amounts under Column 6, Statement 1, Exhibit 170?

A. It is the difference between Columns 4 and 5. It is Column 5 subtracted from Column 4.

Q. Now, then, you didn't give any consideration to depreciation in this Column 4 of Statement 1. With reference to your Column 1 where you use original cost, did you apply against that the accrued depreciation as per company books?

A. No, these are undepreciated original cost rate base at January 1 each year, undepreciated.

Q. What is the accrued depreciation of the company's books? Do you have that available for each of those years?

A. I can tell you what was there as of December 31st, 1939, but I don't have it for each year. The accrued reserve then was \$4,494,325.

Q. Does that include the amortization reserve also in the contract?

A. No, sir, that is only on property.

Q. What is that amortization reserve on contract per books?

A. I believe that question came up once before during the testimony on the exhibit that covered the amortization of the contracts and franchises—covered the cost of the contracts and franchises. I think it was acceptable to either you or Mr. March that I read the amortized cost into the record instead of looking for the amount as amortized each

year. That figure less the amortization reserve in 1939 was \$1,180,616.69.

Mr. Dougherty: If you wanted to get the reserve, Mr. Lusk, you would deduct that from \$2,589,608, which is the cost of gas contracts as shown on Statement 2 of this exhibit?

The Witness: That is correct. The company is amortizing it on a uniform basis at approximately \$153,000 a year.

By Mr. Lange:

Q. What is the purpose of setting up this depreciation reserve on its books? The figures, for instance, that you gave for the year 1939, what is the purpose of the company setting it up on its books?

A. They are setting up an accrual for reserve for depreciation.

Q. For what purpose?

A. For the retirement of property when the time for replacing retired property rolls around. Then they will have a sufficient reserve to take care of it.

Q. They have been accruing that since 1928?

A. Yes.

Q. In your Table 6, Statement 1 of the exhibit where you say "net operating earnings for return, depreciation and amortization, available for depreciation and amortization," have you since these figures have been computed—I mean since they have been determined in Column 6—made a study of what the company claims is necessary for proper depreciation reserve and amortization requirements?

A. Have I made a study of it?

Q. Yes.

A. No sir.

Mr. Dougherty: You mean actually what has been accrued on the books through 1939?

Mr. Lange: Yes.

The Witness: I have given you that figure.

Mr. Lange: I mean beyond 1939, from 1940 on.

The Witness: Is that in the form of a question? Did I make any study?

By Mr. Lange:

Q. Did you make any study as to what the company's requirements will be for depreciation and proper amortization from 1940 on through 1947?

A. No, sir.

Q. You have not?

A. I did not.

Q. Well, in connection with the studies on income tax paid you have made some assumptions on that, haven't you?

A. Oh, yes, I have made some assumptions but that is purely an arithmetical calculation or computation. That doesn't involve any study as to what the requirements will be.

Q. In what paragraph did you arrive at that arithmetical computation?

A. It works out exactly at the same rate the company is using for depreciation reserve purposes on all of its property with the exception of automobiles, tools, implements, and office furniture, and it is exactly $3\frac{1}{2}$ per cent per annum.

Q. Is that the rate the company has employed heretofore?

A. Yes, sir, beginning with about 1931.

Q. What determined the rate to be applied at that time?

A. The Bureau of Internal Revenue wouldn't accept the company's rate.

Q. What was the company's rate prior to that time?

A. About $4\frac{1}{2}$ percent.

Q. About $4\frac{1}{2}$ per cent?

A. Yes.

Q. Since 1931 the company has employed a $3\frac{1}{2}$ per cent rate?

A. That is correct.

Q. And going back to Statement 1 of your exhibit, Column 5, I see you have "Amount Required for 8 per cent return." How did you arrive at that 8 per cent?

A. The eight per cent was the percentage given by Mr. Coffman; by the four rate of return witnesses; that is, Coffman, Bosworth, Sands and Gilman.

Q. Are you sure Mr. Coffman estimated any percentage in his rate of return?

A. It is my recollection he said not less than eight per cent.

Q. Anyway, you didn't arrive at that eight per cent on your own estimate but you took their estimated figures?

A. That is quite right.

Q. And as I see from this Statement 1 of the exhibit all of these computations throughout the exhibit end with the year 1940, do they not?

A. 1947.

Q. 1947?

A. Yes.

Q. They are projected beyond 1939 and through 1947?

A. Yes, sir.

Q. And why have you projected them on through 1947? Is it the same reason you have heretofore given?

A. It is the same reason I have heretofore given, and in 1947 it is the last full year.

Q. In fact, the contract of January 3, 1928, as you stated, expires in June 1948?

A. June 1, 1948 the contract between Canadian River Gas Company and Colorado Interstate Gas Company expires.

Q. And you pursued that method of stopping at 1947 all the way through?

A. Yes, sir.

(Vol. XLVIII, pp. 6632-6639.)

Q. As I understand it, then, you have made no estimate as to what the company's requirements are for depreciation in the future?

A. None whatever, no sir.

(Vol. XLVIII, p. 6654.)

Mr. Dougherty: I did want to ask this, Mr. Lusk: Depreciation is not a cash item in expenses?

The Witness: Ordinarily it is not.

Mr. Dougherty: It is purely a bookkeeping entry.

The Witness: It is purely a book method of transferring it from one account into another, setting up expenses and applying a reserve against it.

Mr. Lange: Is that the definition the Uniform System of Accounts give for that?

The Witness: Well, the Uniform System of Accounts allows any utility to charge it up against depreciation expense and set up a corresponding reserve.

Mr. Lange: You haven't attempted to follow the Uniform System of Accounts provision with reference to the setting up of the depreciation reserve?

The Witness: No, sir.

(Vol. XLVIII, p. 6655.)

Further Testimony of the Company's WITNESS, ROBERTS.

Q. Mr. Roberts, you were sworn the other day when you testified, I believe?

A. I was.

Q. Have you prepared for the Colorado Interstate Gas Company a statement showing accumulated depreciation and its application to the original cost of the Denver line properties as of December 31, 1938?

A. I have.

(Vol. XCVII, p. 15002.)

Q. But in this particular proceeding here you are taking, or you are estimating the per cent condition and then relating that to what Mr. Lusk has termed the original cost of the property?

A. I am relating it to the same property that we inspected.

Q. The same property that you inspected?

A. Yes.

Q. But you haven't got any reproduction costs new estimate of that property in this proceeding?

A. Not in this proceeding.

Q. So in that respect it differs from the other valuations proceedings in which you have participated?

A. We went about it in exactly the same way as we did for the other exhibits.

Q. Yes, but as I say, in these other valuation matters in which you participated, you usually had a reproduction cost new estimate and then there was a per cent condition arrived at by inspection—by a physical property inspection?

A. Well, it doesn't make any difference whether it is reproduction or actual cost. It might have been reproduced the day before and both be the same thing.

Q. Well, but I want to know whether or not in all of these other assignments in which you participated and that you cite in your qualification statement, you didn't have a reproduction cost new estimate to which you related the per cent condition after you determined that?

A. Which ones? I didn't understand to which ones you are referring.

Q. You named a number of instances where you prepared valuations.

A. I understood you to say that you didn't have reproduction figures on those.

Q. I said, you did in those cases.

A. I misunderstood you. I thought you said you did not.

Q. In all those instances where you stated you had something to do with valuations of property you had a reproduction costs new estimate, didn't you?

A. In most of them, I would say.

Q. In which ones didn't you?

A. I will have to look at this list.

Well, the only one on that list—of course, I have worked on some other companies too—on the Sinclair Consolidated Oil Company at one time I think we did make some estimates of depreciation to be set up on the books. I participated a little bit in that but to such a small extent that it's not worth mentioning; so the rest of these would be on reproduction basis.

Q. Yes, that's what I meant. They were all related—in other words, the per cent condition that you arrived at was related, then, to the reproduction costs new estimate?

A. As I recall it—some of these jobs are quite a long way back and I might be a little bit mixed up on them.

Q. Now going back again to your Exhibit 272, in arriving at this, what you term accumulated depreciation, did you make actual field inspections of what units of property of Canadian River?

A. The men who determined this accumulated depreciation in the field inspected the major buildings, the pipe lines, the measuring station structures on which I had made a list chronologically and they inspected every fourth one of them in the order in which they were constructed.

Q. Now, this so-called accumulated depreciation, the figure that you give in your Exhibit 272, that is the converted per cent condition as Mr. Rhodes uses it in his reproduction costs new estimate, isn't it? In other words, where you have, say, a 93 per cent condition related to reproduction costs new, you have a 7 per cent accumulated depreciation figure?

A. That's right.

Q. So you do, in fact, have a per cent condition that you are relating to what is termed as original cost adjusted?

A. That's right.

(Vol. XCVII, pp. 15036-15038.)

Q. I want particularly to confine myself at this time to the method that you pursued in relating those inspection figures to your so-called accumulated depreciation.

A. This was done in exactly the same way as it was done on the estimates of reproduction of the Canadian River transmission, and the Colorado transmission—exactly the same as Mr. Rhodes testified.

Q. You followed the same theory that he had with reference to the deceleration of the corrosion that takes place in the field lines?

A. That's correct.

Q. In other words, your inspection made in 1939, related the per cent condition as of December 31, 1938?

A. That is correct. At least, we used it for that.

Q. You used it for that. Well, now, these determinations as to corrosion, as I recall Mr. Rhodes' version of that, you determined that after a certain period of time corrosion would decelerate, is that right?

A. No, no, exactly that, not after a certain period of time.

Q. Well, when?

A. As soon as the pit is started it forms a little protection there and the penetration from that time on slows up.

Q. It decelerates, then, as he put it?

A. That's right.

Q. How long will that continue before the deceleration begins; or, once you have a pit, how long will it be before there will be deceleration?

A. As soon as the pit starts, there is sort of a scale

that usually forms over that and there are other factors that enter into it, it decelerates at that time—it doesn't decelerate at that time, from that time on it decelerates.

Q. From what time on?

A. From the time there is some pit starting and some material in that pit.

Q. In other words, prior to that time there is acceleration of the pit, or what takes place?

A. It is not acceleration. When the pipe is put in the ground—

Q. All right.

A. —the depreciation starts—

Q. What do you mean by the depreciation starts?

A. I mean depreciation. The principal thing being pitting, one of the principal things—

Q. When you say "depreciation," you mean the pitting starts?

A. The pitting would start, and when that starts, usually in a pit there is some scale and other matter which tends to decelerate that.

Q. All right, now, at the time you made this inspection of the field lines in 1939, how could you determine how long any of those pits had been—or, how long prior to that time the pits had formed?

A. I didn't need to know.

Q. You didn't need to know that?

A. No.

Q. Why?

A. Because I know from that time on it was going to decelerate and by doubling the age the pit would only go half again as far it had gone.

Q. Yes, but if you didn't know when that pit had actually started on its course on that pipe, how do you know when it will stop?

A. I don't need to know that. I don't need to know when it is going to stop.

Q. Well, then, how can you determine your per cent condition of that pipe, or the depth of the pit, or how far that pit will eventually go?

A. I know because there is a certain depth at that particular time, and we used a formula which is a very conservative formula of doubling the age that the pit would only penetrate fifty per cent further.

Q. Although you don't know how long that pit had been in the actual process of either forming or how long it had been on the pipe at the time you made your inspection?

A. There is a period covered there. It could be from zero to a hundred and it might be from 1 to 50, but the relation between those things is what we got.

Q. You pay no attention or give no consideration whatsoever in making that determination as to that pit inspection as to how long the pit had been on the pipe at the time of the inspection?

A. No, sir.

Q. It is not necessary to do that to arrive at your per cent condition in utilizing your formula?

A. No.

Q. And the time element doesn't enter into that at all?

A. Time is expressed as the speed of the penetration. As I stated, it decelerates. Of course, the deceleration, the time element is considered in that, but that is the extent, the rate is something having to do with time—speed.

Q. Some of these pits you inspected in 1939 were still in the process of decelerating at that time?

A. In 1939?

Q. Yes.

A. Yes.

Q. Well, how much further, then, in the future will that deceleration continue?

A. How much?

Q. Yes, how long?

A. It would continue to decelerate until the time it becomes necessary to remove the pipe, when the pit has gone through the wall, and at such time as it is advisable to remove the pipe. Of course, then the pipe is out.

Q. That is true, but this inspection made in 1939 where you found certain pits that were at that time decelerating, that deceleration would continue for some period in the future?

A. Yes.

Q. Do you know how long?

A. I didn't need to know how long.

Q. You didn't need to know how long?

A. No, all I was interested in was when it would get through the pipe.

Q. You didn't need to know in determining your per

A. No.

Q. And in determining that per cent condition you arrived at it from that particular physical inspection?

A. From the inspections and correlated data.

Q. And you didn't take into consideration the age of the pipe; how long it had been in the ground?

A. No.

Q. You limited your determination of per cent condition to that physical inspection?

A. And other correlated facts.

Q. That is, applying your formula to those readings that were made of the inspection?

A. Yes. Mr. Rhodes and I together made it.

Q. What other correlated factors are you talking about?

A. Well, we considered the cost of reconditioning the pipe.

Q. You mean the cost of reconditioning the pipe?

A. Yes.

Q. How would you arrive at the—or, rather, how would that be a factor in determining present per cent condition?

A. Well, you could either let the pipe depreciate and not try to recondition it before it got to the point where you wanted it removed or you could take the pipe and weld up the pits and put it back in shape again.

Q. Oh, you were taking into consideration what maintenance you would have to apply to that pipe?

A. Not maintenance, reconditioning of it.

Q. What is your distinction between maintenance and reconditioning?

A. I didn't have to make that distinction for this exhibit here.

Q. You are stating, though, some other correlated factors that you took into consideration besides this physical inspection to determine that per cent condition.

A. I said we did make an estimate as to what it would cost to weld up those pits.

Q. Well, how would that assist you in determining the present per cent condition of that pipe? That's something that you are going to do in the future, or the day after you made the inspection. At least not at the time of the inspection.

A. You aren't going to remove your pipe at the time of the inspection, either.

Q. All right, what did the fact that you are either going to repair that pipe or clean it or what-not have to do with determining presently your per cent condition?

A. Well, we wanted to find out how much it would cost to put that pipe back in shape.

Q. For what purpose did you want to find that out?

A. In figuring our estimate of the reconditioning.

Q. You utilize that to determine present per cent condition?

A. We wanted to find out how much it would cost to weld up the pits, where we think it would be necessary to put that pipe in shape.

Q. That was to be done in some time subsequent to your inspection, wasn't it?

A. It might not have been done. It might have been one joint of pipe at that particular time.

Q. At that particular time?

A. It might have been.

Q. When was that ever done?

A. When was that done?

Q. Yes.

A. I don't know if it has been done on this property or not.

Q. So in determining your per cent condition it wasn't essential, or rather, it couldn't have been a part of the factors that went into the figures that finally were put down, could it?

A. Yes, it could. If we found that the cost of reconditioning that pipe was very high, and that method could be disregarded entirely, then the other factors that entered into it would be given more weight than that.

Q. Maybe I can clear it up in this way: What do you define by the term "per cent condition" as you employ it and Mr. Rhodes employed it?

A. The per cent condition as we have employed it, represents the extent to which the property has depreciated as compared with the total depreciation that would cause that property to be retired.

Q. And you relate that to some particular date or time, don't you?

A. No.

Q. It is limited to physical factors, then, isn't it?

A. What do you mean by physical?

Q. Well, something that you can see and determine from looking at the pipe.

A. Well, we studied all factors.

Q. What other factors?

A. Obsolescence, inadequacy, such things as that.

Q. In connection with the determination of that per cent condition?

A. Yes.

Q. Well, didn't you in your Exhibit 273, when you referred to the statement made by Mr. Rhodes in his Exhibit 68, have this to say at Page 1 of the written statement:

"The depreciation accumulated in the property was determined from observations of physical conditions."

Is that the way Mr. Rhodes proceeded and you proceeded?

A. What page was that, you say?

Q. Page 1 of the written statement, Exhibit 273.

A. 273?

Q. Yes.

A. Yes, he didn't mention anything else in the physical—

Q. That was what he predicated his determination of depreciation, or per cent condition on, of those properties, wasn't it?

A. He considered obsolescence, but there is no obsolescence in this property.

Q. There is no obsolescence in this property?

A. No.

Q. So these determinations that he made and that you made were from observations of physical conditions of units of the property as described by Mr. Rhodes?

A. Yes.

Q. Now, then, those readings that were made after the various test holes had been inspected, they were then taken and the formula applied by you?

A. I didn't do it personally. Mr. Smith directed that work and I worked along with him.

Q. Mr. Smith?

A. Yes, sir.

Q. Was it under your direction?

A. Under my direction and Mr. Rhodes—mostly under Mr. Rhodes' direction in that case.

Q. You then determined from those figures what the per cent condition of that particular unit is?

A. Mr. Smith, Mr. Rhodes and I worked on that. Mr. Rhodes set the final figure on that.

Q. So when you used the term "accumulated depreciation," it is really a conversion of that per cent condition as utilized by Mr. Rhodes in his two exhibits?

A. Yes, sir.

Q. In other words, where you have a 93 per cent condition you say that there is a 7 per cent accumulated depreciation applicable to the particular unit?

A. That is correct.

Q. And it is in that fashion you apply the term "depreciation" in your exhibit?

A. Yes.

Q. Accumulated depreciation?

A. Yes.

Q. In connection with those—there is one other thing I want to get back to. The determinations of per cent condition in any particular unit of property, you didn't determine the life of the particular unit or section of pipe in the ground?

A. Do you mean by "life" how long it had been in there?

Q. Yes.

A. No, I did not.

Q. And in determining the per cent condition of the strike that.

Going back to your definitions again, you utilized the term "depreciation" as distinguished from "depletion" in your Exhibit 272, didn't you?

A. That is correct.

Q. Exactly what do you have in mind, or how do you define the word "depreciation" as employed by you in this exhibit?

A. Depreciation?

Q. Yes.

A. Depreciation is a figure determined by applying to the original cost the per cent that the property had advanced towards a total depreciation, such depreciation as would cause that property to be retired.

Q. Have you ever had occasion to see for yourself as to the definition of depreciation in the Federal Power Commission's Uniform System of Accounts for natural gas companies?

A. I think I read something that had to do with the way depreciation should be set up on the books.

Q. I mean the definition that is given, the term as it is applied.

A. You mean as applied to the depreciation on the books?

Q. Well, it doesn't limit itself to that particular use.

A. That book is for that purpose, is it not?

Q. I will ask you whether or not this is your understanding of the term "depreciation" as applied to gas plants: "Depreciation as applied to depreciable gas plant means the loss in service value not restored by current maintenance and incurred in connection with the consumption of prospective retirement of gas plant in the course of service from causes which are known to be in current operation and against which the utility is not protected by insurance"?

A. That isn't the way I set this up.

Q. It isn't?

A. No.

Q. In what respect do you define the term differently from that?

A. I have made no allowance for amortization of property in any way for any cause.

Q. What do you have to say with respect to that restrictive clause in this definition, that it does not apply to property that is restored by current maintenance or loss in service value of that property?

A. It is not restored by current maintenance?

Q. Yes.

A. I believe that holds to my definition.

Q. That holds to your definition?

A. Yes.

Q. Well, then, supposing one of these units of pipe, say several hundred feet of it is situated in one of your hot spots you referred to in Exhibit 272, and which unit of pipe has been given a 93 per cent condition or a 7 per cent accumulated depreciation has been applied? Supposing one of those lengths of pipe of several hundred feet is found to be necessary to be removed or retired within a few months after you made that inspection, how would you treat that?

A. How would I treat it?

Q. How would you apply your formula of depreciation?

A. You mean if I were operating a gas company?

Q. Yes.

A. I haven't considered that at all.

Q. You haven't considered that at all?

A. No.

Q. Have you given any consideration in the determination of your per cent condition to actual retirements of units of property out of the production or gathering system of the Canadian River Gas Company during 1939?

A. Where they retired items of property?

Q. Yes.

A. No.

Q. Would it have made any difference in your treatment of accumulated depreciation how soon—strike that.

Even if the unit of property were retired shortly after you had given it a 93 per cent condition, that wouldn't have made any difference in connection with your computation?

A. You mean if it blew up or something like that?

Q. No, if it were retired for any reason at all found necessary.

A. For what reason?

Q. It may have been some of these deep pits that you hadn't discovered in your inspection.

A. Well, our average figure would have discovered enough so that case wouldn't happen.

Q. Oh, it wouldn't have happened?

A. No.

Q. Your method of inspection at those various intervals would have precluded anything happening?

A. It would have precluded 200 feet of pipe being taken up the next day on account of pits going through.

Q. You say you didn't know of any of the retirements that were made by Canadian River Gas Company during the year 1939?

A. Yes.

Q. Well, now, I notice in June 1939—strike that.

When did you complete your inspection of those various units of property? About what month in 1939 was it?

A. Most of it was completed in August.

Q. August?

A. Most of it.

Q. Most of it was completed in August?

A. Yes.

Q. And when did you begin the work that year? Do you know about what month it was?

A. I came out here in March myself and some of the others came out here at various times.

Q. Well, now, I notice in June 1939, under Voucher F-19-25 that 1205 feet 9 inches of 4½-inch pipe of Canadian River was retired. That had been given a 93 per cent condition in your reproduction costs new estimate as of December 31, 1938.

A. Not that particular piece.

Q. Not that particular piece?

A. No.

Q. Why wasn't that particular piece given that per cent condition?

A. It was an average for the whole property.

Q. Then if the day after you gave a particular unit of property a 93 per cent condition, or a month after that unit of property is retired, it wouldn't affect your estimate at all?

A. It is after the date of my estimate.

Q. Supposing it is retired the day after?

A. It still would be after the date of my estimate.

Q. You think you would retire a unit in 93 per cent condition?

A. Do I think I would retire it?

Q. Yes, would you retire it as an operating matter?

A. If a pipe blew up, I would certainly have to replace it with another piece of pipe.

Q. I am not talking about one that blew up but I am talking about one that didn't blow up, one that had a pit you didn't see, or some other condition whereby you found it necessary to retire the unit.

A. There might be an occasion in city work where they might have dumped a lot of salt water outside a soda fountain. If it got down to the joint it would cause the joint to go out faster but it would be some special occasion and it would be such a small percentage that we would ignore it entirely.

Q. That wouldn't be the case of 1205 feet of pipe, would it?

A. I don't know why—it is a very small part of the system, but I don't know what caused it.

Q. That is true; it is a very small part of the system, but it was an instance where a unit of property that had been determined to be in 93 per cent condition was retired; was it not?

A. I didn't say 93 per cent. I said the property in the average would be 93 per cent. There would be part of that found in a lower condition than that.

Q. All right. Supposing, then, there was some portion of your compressing unit that had been given a 93 per cent condition and the very next week that had to be replaced?

A. Well, generally that would be due to an accident.

Q. Due to an accident?

A. Yes.

Q. It couldn't be possible that just from physical observation you weren't able to see some defect there or some part of the machinery that had worn out—

A. It is very remote and it would be an accident in that case.

Q. —or some part of the equipment—

A. It would be defective material—

Q. —that had been worn to the point you didn't see it at the time of the inspection?

A. They go over the engines ever so often and micrometer them and put them in good operating condition, so that is pretty far-fetched to think of.

Q. It couldn't happen?

A. I don't think it could.

Q. In other words, just a physical inspection of a compressor unit can very definitely tell you just how long it is going to stay in there?

A. I didn't say that.

Q. Or a physical inspection of a compressor very definitely determines its per cent condition?

A. If all of the facts are correlated and somebody who is competent to know the operation of engines inspects them, he can tell what the condition is—determine what the condition is.

Q. In applying your method of computing per cent condition, or, as you term it, accumulative depreciation, even if part of that unit goes out right after that determination, that still satisfies that theory as being correct?

A. We have considered all of the parts that wear and if something blew up and destroyed that engine it would have

no effect upon the engine as we had considered it. If there were some minor thing such as a spring or a valve breaking, that is conceivable, but that is such a minute cost as compared to the total cost, that wouldn't enter into the calculation at all.

Q. In other words, you approached this matter of depreciation definitely as an engineering problem? You and Mr. Rhodes both determined the per cent condition or accumulated depreciation from your physical inspections made of the property?

A. That's right.

Q. You contemplated it as an engineering problem?

A. It is primarily an engineering problem.

Q. You approached it in the same fashion as Mr. Rhodes stated he approached it where he states the method he pursued?

A. Yes.

Q. That is where he in turn relates to what he did in the preparation of Exhibit 68?

A. Yes.

Q. You proceeded in the same fashion?

A. That is correct. In fact, Mr. Rhodes proceeded with me, understand that.

Q. Yes, and you proceeded in that fashion in the determination of these percentages of accumulated depreciation in your Exhibit 272?

A. That is correct.

Q. You stated something a while ago with reference to determining at the time you made these inspections whether the pipe could be reconditioned and the pits welded, and so forth, didn't you?

A. Yes, sir, and we supplied the Federal Power Commission engineers with all of that data showing how we made our calculations and it was gone over by Mr. Rhodes. The field lines at the same time were taken off by the Federal Power Commission engineers because they happened to be in the same book.

Q. When you made these inspections and found there should be some work done with reference to either reconditioning the pipe or repairing it, what notation did you make there on your schedule?

A. We didn't make notations as to whether pipe should be repaired, as we recorded the depths of the pits and we just followed that outline Mr. Rhodes presented.

Q. Just exactly as he proceeded in his computation of the per cent condition in those two exhibits?

A. That is correct.

Q. I don't believe you gave any definition of what you understand by the term "depletion" as applied in your exhibit.

A. Well, depletion, when applied against wells, for instance, was based upon the reserves that you had at the time the well was drilled, compared with the reserves at the time you considered it.

Q. What reserves?

A. The recoverable reserves.

Q. Where did you get those figures?

A. I got those figures from an exhibit—

Q. If you know the number of the exhibit, state it.

A. Exhibit 207. That is the exhibit concerning reserves, and the gas withdrawn is covered in Exhibit 206.

Q. Then you applied depletion as you termed it, to the remaining life of the leaseholds? In what way do you relate the depletion to the Canadian River leaseholds?

A. I found out how much gas was withdrawn in a year as compared with the gas at the start of that year and applied that factor against the investment of leaseholds at that particular year.

Q. In that fashion you distinguish your interpretation of the term "depletion" from "depreciation"?

A. You could have depreciated pipe and have put in some new pipe in the place of the line that was there, but when a well goes out you have to drill another well in another location.

Q. Now, then, in determining your so-called cumulated depreciation which you did as of December 31, 1938, from inspections made in 1939, you arrived at what you determined a per cent condition or accumulated depreciation as of December 31, 1938?

A. That is right.

Q. Now, then, with that inspection you made in 1939 which aided you in determining the per cent condition as of December 31, 1938, did it enable you to determine the per cent condition or accumulated depreciation as of January 1, 1938?

A. January 1, 1938?

Q. Yes.

A. We could probably make a guess but it wouldn't be very far different from that.

Q. It would be just a pure judgment figure, wouldn't it?

A. To work it backwards, you say?

Q. In your opinion, would a unit of property in 93 per cent condition, December 31, 1938, be in that condition on January 1, 1938?

A. That would depend upon the piece of property and to what use it had been put.

Q. If you had not made any other inspection, how would you arrive at the accumulated depreciation if you wanted to know it as of January 1, 1938?

A. Previous to the date of our's?

Q. Yes.

A. I haven't had occasion to do that.

Q. There would be no way to do that, would there?

A. If your property was in pretty good condition and the operation had been the same and everything had been the same, you could make a pretty good guess at the time.

Q. Of course, if there had been the usual maintenance of the unit—

A. There would be a lot of factors that would have to be considered.

Q. Of course, you would want to know whether the usual maintenance has been applied or had taken place during the year?

A. You would want to know if there was anything unusual.

Q. You would want to know there was good maintenance during that year, wouldn't you?

A. If the buildings were rusting and there was no paint put on them, you would want to know that fact. Are you trying to determine how I got back to an early date?

Q. Yes, I wanted to know if there would be a way of determining that.

A. There would be so many factors you would have to consider, it would become quite an involved problem.

Q. But if the proper maintenance had been kept up during any period earlier, that would have kept up your per cent condition, wouldn't it?

A. You have to have proper maintenance to keep your property up.

Q. To keep it in that higher per cent condition?

A. To keep it in—what higher per cent condition?

Q. Where you had a 93 per cent condition at December 31, 1938 and a high maintenance prior to that time, that 93 per cent you had—

A. You say if I had 93 per cent I would have high maintenance cost or a good policy of maintenance?

Q. If you had known that high maintenance had prevailed for the 12 months earlier than December 31, 1938—

A. What do you mean by high maintenance?

Q. I would say proper maintenance.

A. Proper maintenance?

Q. Yes, a high degree of maintenance.

A. A high degree of maintenance has been exercised prior to that time?

Q. Yes.

A. And then what?

Q. What would you relate then as to the per cent condition for the 12 months prior to December 31, 1938?

A. I haven't gone into that calculation, calculations like that.

Q. You haven't attempted to do that?

A. No, sir.

Q. You haven't attempted to determine what the per cent condition of your unit would be at January 1, 1938?

A. No.

Q. You couldn't do that, could you?

A. Knowing what condition it is in now and knowing what the company's policy has been, I could make a pretty good estimate. I wouldn't be far off.

Q. Why would you be able to make a good estimate?

A. Because this isn't a very fast depreciating property.

Q. You know the company's policy as to maintenance, too, don't you?

A. I know they haven't had to have as much maintenance as some companies.

Q. It has been their policy to keep up maintenance at a proper level, hasn't it?

A. I would say so, as everything was found in good shape.

Q. As an operating problem, that is the most efficient manner to operate the line, isn't it?

A. To keep your maintenance at a proper level, yes.

Q. That would have some bearing on your estimate that

the per cent condition would probably be pretty nearly the year ahead, wouldn't it, being January 1, 1938?

A. A year prior, you mean?

Q. Yes.

A. If you were trying to make an estimate of what it was, then that would be one of the factors you would consider.

Q. You make the further statement in Exhibit 272 in determining this accumulated depreciation, that is, aside from amortization?

A. That is correct.

Q. What do you contemplate the term "amortization" meaning as you applied it here?

A. As I applied it where?

Q. In your exhibit.

A. Well, if you want to amortize the money you have invested in your property over a certain number of years, that would be amortization.

Q. This determination you made in this exhibit is exclusive of whatever amortization may have to be set up?

A. That is correct.

Q. You have made no determination of that amortization?

A. No, sir, I haven't.

Q. What is that intended to provide for?

A. What?

Q. The amortization you have included.

A. I haven't done that.

Q. You haven't?

A. No.

Q. You haven't concerned yourself with that?

A. No.

Q. You have concerned yourself with the time you say the field will be depleted, haven't you?

A. I have, yes, in the depletion of the wells.

Q. You predicate your depletion on the company's estimate as to when the Panhandle field will be depleted?

A. I have based it upon the figures presented by the company witnesses in that respect.

Q. By the company's geologists?

A. Based upon the figures as stated in my exhibit here of original gas reserves estimated recoverable at 50 pounds gauge by Mr. J. D. Thompson in his Exhibit 207 and gas withdrawn through 1927 as shown by Mr. C. J. Peterson

in his Exhibit 206. The figures in those two exhibits are what I used.

Q. Of course if the life of Canadian River acreage is longer than what those engineers estimated, it will have a bearing upon your depletion schedule, won't it?

A. That, and the amount of gas to be taken out, if the rate was changed—

Q. The rate of withdrawal was changed?

A. Yes.

Q. Those factors would have a bearing upon changing your depletion schedule?

A. They would, in the future, not up to date. These have already been withdrawn.

Q. In that respect you compute depletion in a fashion entirely different from the way you approached your depreciation problem?

A. Depletion and depreciation here are different things.

Q. You relate your depreciation back to the year 1928 or 1927, don't you?

Mr. Dougherty: You mean depletion.

Mr. Lange: Depletion.

The Witness:—Yes. I start with 1928 and I find the amount of depletion arrived at by the method I have outlined for each year and I got the accumulated amount.

By Mr. Lange:

Q. But in determining your accumulated depreciation in the property, you start as of December 31, 1938?

A. No, the property was there in 1928 and I found what condition it was in when I inspected it.

Q. I am referring you now to the determination of the per cent condition. You are relating that to December 31, 1938?

A. Yes, the per cent condition.

Q. In connection with that determination you are proceeding in an entirely different fashion than you proceeded in the determination of your depletion?

A. I have figured depletion and depreciation differently.

Q. In other words, you are proceeding in setting up your accumulated depreciation, as you term it, beginning as of December 31, 1938 against what you say is the original cost of the property?

A. That is the amount accumulated depreciation at that time, regardless of when that piece of property was put in.

Q. At the same time and in the same breath you are determining the original cost of the property?

A. That is right.

Q. And that original cost of property was incurred before December 31, 1938?

A. Yes, but the depreciation I determined was accrued during those years.

Q. During all those years, is that the way you arrived at it?

A. It accrued during that period because when the property was new there was no depreciation, and when we went out and inspected it we found that amount.

Q. During the period from 1928 through 1939 on a unit of property that you say has 93 per cent condition, that is the entire depreciation that accrued over the entire period?

A. That is on the average.

Q. On the average?

A. Yes, on the average for that particular account.

Q. What do you mean by average?

A. Undoubtedly you would find a piece of pipe here and there that had deeper pits than another piece of pipe, and if it had deeper pits that pitting would go through it sooner than it would in the other piece of pipe under the same sort of conditions.

Q. And from a physical inspection you determined the whole accumulated depreciation in that unit as 7 per cent?

A. Yes.

Q. You wouldn't think of attempting to set up or determine depletion of your leaseholds in that fashion, would you?

A. I would say that as the leases depleted you should go out and buy new leases.

Q. I mean you are not even attempting to set up your depletion in this exhibit in that fashion, in the fashion you did your depreciation?

A. No, I figured depletion and depreciation differently.

Q. Do you set up your depletion in your income tax returns for the company on the same basis you set it up in Exhibit 272?

A. I didn't investigate that.

Q. You don't know what the company did in that respect?

A. It seems to me that they based it upon comparable figures, but I couldn't swear as to that.

Q. You are setting up your depreciation here on a sinking fund basis, aren't you?

A. I am not setting it up on a sinking fund basis.

Q. You determined your depreciation in this exhibit as of December 31, 1938?

A. Determined the condition as of that date?

Q. That is right.

A. Yes.

Q. Now, then, if you had another proceeding in 1944, say, or five years after 1938, being in 1943 or 1944, you would go out and make physical inspections of these units of property, wouldn't you?

A. It would depend upon the circumstances.

Q. Well, conceding that your proceeding here is the one you adopted; you would have another similar proceeding five years from now, would you go out and make physical inspections of those units?

A. Making these inspections is an expensive job and I think if competent engineers got together they might be able to determine conditions suitable for rate-making purposes without going to that expense.

Q. How would they do it?

A. They would find out what the conditions were as of the date the inspection was made and in their judgment determine what they thought it was as of that other date, considering any changes in the property, and considering the way units have been run and other factors.

Q. They would go back to your 1938 figures; for instance, to that unit you found to be in 93 per cent condition?

A. As a compromise they might do that. To be determined most accurately it would be deemed advisable to inspect the property again.

Q. It would?

A. Yes.

Q. And if there had been a good maintenance program followed by that company during the five-year period, you would be apt to find that line in 93 per cent condition again, wouldn't you?

A. There would probably be other things taking place in that line, added other lines and other factors that might enter into it which might affect the overall picture some way.

Q. How would you know that had taken place under your method of determining per cent condition?

A. If I went out and inspected it, I could find what depreciation had taken place.

Q. You would go out and make a new inspection of the line?

A. That would be the most satisfactory way.

Q. You might arrive at a 93 per cent condition again?

A. That is entirely possible.

Q. And you would start out all over again, starting your depreciation all over again?

A. There might have been new property added during that period.

Q. You would relate that per cent condition you found then in 1944 or 1945 to your original cost?

A. I would apply it if I wanted to find out what the depreciation of original cost was.

Q. I believe Mr. Rhodes stated this property, if properly maintained, is apt to last a hundred years or more. Do you remember him making such a statement?

A. I sort of recall a statement on the pipe line itself.

Q. If at five- or ten-year intervals you would have additional proceedings similar to this and every time you would go through the mechanics in order to thoroughly satisfy yourself, you would make physical inspections of those units, wouldn't you?

A. That would depend upon the circumstances. Usually there are additions to property and retirements to property. Retirements affect the overall conditions as well as the overall costs.

Q. The most satisfactory manner to proceed in would be to make those inspections at that time?

A. In my opinion it would be.

Q. Now, in arriving at this per cent condition of property that you do in making these inspections, it is not your opinion that that per cent condition has any relation to the value, is it?

A. What do you mean by value?

Q. The value of the particular unit of property.

A. The value expressed in what terms?

Q. What is your definition of value?

A. You were asking me the question.

Q. The value of that particular unit of property expressed in terms of dollars.

A. I have expressed it in terms of dollars.

Q. Do you relate that per cent condition expressed in terms of dollars for that unit of property?

A. I do. Dollars of the original cost as compared to depreciated cost.

Q. You say there is a direct relationship between the two, between the per cent condition of that unit?

A. The per cent condition—that is how we found the depreciated value, we took the per cent condition against the original cost.

Q. That in your opinion would be the case regardless of what the maintenance may have been on that particular unit?

A. We found it based upon what maintenance had been done, had taken place. We inspected that property as of a certain date and found it in a certain condition. We didn't investigate whether there had been—we didn't investigate whether they had spent so much money for maintenance each year, skipped a year, and so much for another year, but we found out what the depreciation was at that specific date and didn't make a study back to see what the maintenance had been, because we found what the condition was at that particular time.

Q. Then you very definitely didn't follow the definition the Uniform System of Accounts gives of depreciation when it specifically says that depreciation as applied to depreciate gas plant means the loss in service value not restored by current maintenance?

A. We found out what it was at the time, the condition it was in.

Q. Yes, but the fact it had been restored by current maintenance definitely was in the picture, wasn't it?

A. We found out what the condition of the property was at that particular time and didn't make a study of maintenance—at least, I didn't make one myself.

Q. You didn't make one yourself?

A. No.

Q. Then there would be no way to determine what the per cent condition of that property would be a year after that time unless you took into consideration the fact that current maintenance was maintained?

A. I could make a pretty good guess at it.

Q. You could make a pretty good guess at it?

A. Yes.

Q. Taking into consideration the company's maintenance program?

A. The amount of maintenance in that time would hardly affect the picture.

Q. Well, if it were over a period beyond one year, say three years from the time you had made this per cent condition estimate, how would it work out?

A. Well, if I were called upon to do something, I would consider all of the factors and try to determine to the best of my knowledge—

Q. Maintenance would be definitely in the picture, wouldn't it?

A. If they hadn't maintained their structures and they had started to rust, they would naturally be in lower condition than if they had maintained them.

Q. In making your estimate you would certainly want to know what the company's maintenance program was, wouldn't you?

A. I would want to know. Of course, as I said before, I think the best thing to do is to go out in the field and look at it.

Q. If you had known there was no maintenance program being maintained or carried out at all, what bearing would that have upon your estimate as to what the per cent condition would be two or three years after you had made an inspection?

A. I don't think gas companies go that long without keeping their properties in shape.

Q. It is good operating practice to keep up your maintenance?

A. Surely, to a proper level.

Q. If you were considering the unit of property of a company that did that, that would have a pretty strong bearing upon whether the per cent condition of that unit would be maintained, wouldn't it?

A. As I said before, I would have to consider all of the factors entering into that.

Q. That would be one of them?

A. I would consider that.

Q. What portion of the field lines were you actually able to inspect; that is, how many test holes were there on that entire production—or, rather, in the field gathering property?

A. On the field lines there were 125.

Q. 125 test holes?

A. Yes, that we considered in our calculation.

Q. How many miles of lineal feet or miles of line did that cover?

A. I don't recall. We made these inspections at about every \$10,000 worth of original cost.

Q. You related it to value and didn't have any figures on the lineal feet of pipe involved?

A. Yes, to get the mileage amount of value you—like we had so much value at 2-inch and that would call for—

Q. Let's take the 2-inch pipe. How many inspections were made on the 2-inch line?

A. There were three.

Q. Three inspections?

A. Yes.

Q. How many lineal feet or miles of 2-inch line are there in the gathering system?

A. I don't know. I can look it up.

Q. Do you have it classified as between the various diameters of pipe in the field line?

A. The number of inspections?

Q. Yes.

A. Yes.

Q. And what did you say the total number was?

A. 125.

Q. 125?

A. Yes.

Q. How many inspections did you make of that unit on your field measuring structures?

A. As I recall it, there were around 23. We had a chronological list of the measuring stations and we inspected every fourth one, at the same time inspecting the equipment, and the buildings. I believe there were 21 of them.

Q. What other inspections did you make?

A. On what unit of property?

Q. Yes.

A. We inspected the Fritch compressor station structure and equipment and we inspected the Fritch camp. Do you mean all the others Mr. Rhodes had testified about?

Q. Limit it to the production and gathering system property.

A. You have covered the field lines and I covered the

field compressor structures and equipment; you covered the field measuring station and equipment, and we inspected the drilling and cleaning equipment plus the general property that has been allocated here.

Q. I notice in Statement 1 of your exhibit you haven't any accumulated depreciation applied to the drilling and cleaning equipment.

A. That is correct.

Q. Why?

A. That is a depreciated figure. We did have a reproduction cost estimate made on that drilling and cleaning equipment by an oil well supply representative and had one of our own men inspect it to determine the condition. The depreciated figure as determined by him was higher than this figure, so I assumed that enough depreciation had been taken from the books to cover the accrued depreciation as applied to that account.

Q. Why did you treat that in that fashion differently? Why didn't you just set up the original cost, as you term it, adjusted and apply your per cent?

A. I could have gone through and found out what the original cost there was undepreciated, but it was such a small amount it wasn't worth while.

Q. But why treat that in a fashion different from all the others?

A. I explained that. There is depreciation on that and not on the other items.

Q. But you didn't set up your adjusted cost on that.

A. No. To go through that and get the original cost on that would be an endless job and so little is involved I didn't think it worth while.

Mr. Dougherty: I think if you would explain just how that is done, it would clear it up. That is, they charge off a certain amount after they bring it back from the wells, and so forth.

The Witness: Well, they had varying methods and that is why it would be pretty hard to determine. It is charged out to a well and comes back at depreciated cost.

Mr. Dougherty: If drilling and cleaning equipment goes out to do a job in some instances they would charge the book cost of that at that time against that well?

The Witness: That's right.

Mr. Dougherty: And then when that would be returned they would put it back on the books at some lesser amount?

The Witness: Yes.

Mr. Dougherty: So as a result of that there would be a lesser amount put on the books for this drilling and cleaning equipment?

The Witness: Yes.

Mr. Dougherty: And this \$24,000 is a result that has taken place after a number of these calculations were made after the property was used back and forth?

The Witness: That's right.

Mr. Dougherty: So to get the original cost you would have to go back through the accounts for some time, at the beginning?

The Witness: It would be an endless job, almost.

(Vol. XCVII, pp. 15040-15082.)

Q. Mr. Roberts, in connection with the determination of your accumulated depreciation in Exhibit 272, I want to ask you first whether it isn't a fact that you did not in making that determination take into consideration the life of the gas supply, the company's gas supply?

A. I have told you that I depleted leaseholds and gas well construction.

Q. That's on depletion. I am now referring to your accumulated depreciation as computed against these several units of property.

A. I didn't amortize the property over the life of the field.

Q. In other words, in determining that accumulated percent in depreciation you did not take into consideration the life of the gas supply?

A. No, I found the condition as I found in the field.

Q. From a physical inspection?

A. From a physical inspection.

Q. And in making that determination you did not take

into consideration any possible retirement of any unit of property for the future?

A. Retirement of the property?

Q. Of any unit of that property—any one of those

A. I found the condition as it was right at that particular date.

Q. That's right, and any retirement due to physical cause at any time in the future is not a necessary factor in determining your present per cent condition?

A. Well, some of this pipe had pits in it that were deeper than others and that piece of pipe might have been retired sooner than another piece, so that that is taken into consideration in that respect.

Q. You mean in determining your present per cent condition you determined what piece of property would be retired at some future time?

A. I didn't figure just what piece of property would be retired, but I said that there would be items of property that would be retired before other items.

Q. Oh, there would be some items of property retired before others?

A. Yes.

Q. But the fact that some items would be retired before others is not necessary in determining your per cent condition as to the present physical condition of the property at the time of the inspection?

A. We inspected the property—the pipe line as a whole and we found certain of those joints where the pits were farther through than other joints in other sections. Some of that pipe would be retired before the other part, but that was considered in figuring our overall condition.

Q. But in your setting up formula, in determining, for instance, the depth of those pits and the number of those pits, their location and everything, those readings were then computed into your per cent condition, weren't they?

A. That's right. We gave consideration to the fact that certain pits would be deeper than others.

Q. And those that were deeper than others determined whether you had a higher or lower per cent condition?

A. When weighted into the average they would affect the average.

Q. When weighted into the average of the other pit readings?

A. Yes.

Q. And that is the fashion that Mr. Rhodes proceeded in determining per cent condition of the other two Exhibits 68 and 70?

A. Yes, for the pipe line as a whole.

Q. And it was related to the physical inspections that were made at that time?

A. Yes, it was related to that.

Q. Now, turning to your Exhibit 272 again, Page 4 of the written statement—no, let's go back to Page 3, Account 211, "Gas Well Construction." I note there that you depleted that unit of property, didn't you? What depletion figure did you apply there in relation to that unit of property?

A. I determined how much gas was withdrawn from the field during the year compared to the gas—the recoverable gas at the start of the year, and determined the factor and applied it against the investment during that period.

Q. Well, but you have depleted the company's leaseholds—rather, you have determined the accumulated depletion at this time at 36 per cent, but you determined only 31 per cent depletion of gas well construction equipment.

A. That is correct. If the amount of investment of the leaseholds and the gas well construction had, at each period had been the same, they would have all been the same amount of depletion—the same amount of depletion taken place, but the fact that relationship each year of the investment between leaseholds and gas well construction varied, caused this difference in depletion.

Q. That caused the difference between the two?

A. That is correct.

Q. Between the 31 and 36 per cent?

A. On your leases acquired earlier, there would be more depletion on those. Some of those drilled later wouldn't be quite as much depleted on those.

Q. Is that the way the company had it set up on its books?

A. Which?

Q. Gas well construction. Did they deplete that item on its books?

A. You mean, do they figure depletion on gas well construction?

Q. Yes, Account 211.

A. Yes, it is my understanding they do.

Q. Deplete it in the same fashion that you did?

A. I think on comparable figures. They wouldn't be these figures but they would be comparable figures.

Q. What do you mean, comparable?

A. Well, I would have to check up on this, but I believe they are based on the original reserves against the reserves withdrawn, but I will have to check into that to be sure. That didn't enter into my calculation as to how the company may have computed that item?

A. No.

Q. Now, going on Page 4, the Account 212, "Gas Well Equipment," that is the third item on Statement 1, isn't it?

A. Yes.

Q. You have Column 4, "Original Cost Adjusted," \$931,900, and I see you have depleted that. You have depleted that 31 per cent, haven't you?

A. I couldn't get in the well to find out what condition the casing was in, and I therefore used this same depletion that I found for the gas well construction.

Q. In other words, you didn't apply your per cent of depreciation against that unit of property, did you?

A. No, I couldn't get down into the well to find out what shape the casing was in.

Q. Why didn't you apply some formula or percentage like you did in your inspection of the field lines?

A. That formula on the field lines had to do with the facts that we could measure on the field lines.

Q. There is no way of ever measuring any of the depreciation on this well equipment?

A. Not very well. The casing is in the well and you can't get in and see it. You might take a photograph of the inside, but not the outside.

Q. How did the company carry their depreciation on this item?

A. I don't recall at this time.

Q. You don't know how it was treated on the books of the companies?

A. No.

Q. Isn't it a fact that they had depreciated this item rather than depleted it?

A. It seems to me that that is a fact, but I am not sure about that.

Q. You aren't sure?

A. No.

Q. Well, isn't—well, you made no investigation of that?

A. No, I didn't investigate that.

Q. You gave it no consideration when you determined to deplete it rather than to depreciate it?

A. No. I know they didn't have any better method than I would have of observing it.

Q. And if as a matter of fact the company did depreciate this unit of property rather than deplete it, what would you have to say about that?

A. Well, I don't know. What they do and what I do here are two distinctly different things. I think that I have been pretty conservative in doing it this way.

Q. In other words, your whole method of approach in setting up accumulated depreciation as well as accumulated depletion on any of the units of property in this Exhibit 272, there is no relation whatsoever to the treatment recorded those items on the company's books?

A. They may have some relation but I didn't figure it the same way, because the company did it a certain way on its books.

Q. In other words, even if the company had treated this item "Gas Well Equipment" as a depreciable item, that would be of no concern to you when you prepared this exhibit, and you on the contrary, or on the other hand, treated it as a depletable item.

A. I used a substitute method. I felt sure that they had no way of determining what condition that casing was in.

Q. Why do you suppose they depreciated it rather than depleted it?

A. Well, if you could find out what condition it was in—the casing was in—it would have a certain physical condition.

Q. They didn't make any inspection of it or attempt to get a per cent condition of it when they set up their depreciation of that item on the books, did they?

A. I don't know what they did, but I felt sure that they

couldn't look at the outside of the casing any more than I could and, therefore, I wasn't interested in what they did.

Q. Well, wouldn't that be a significant item right there for criticism to be leveled at the method of determining accumulated depreciation merely from inspection?

A. Merely from inspection?

Q. Yes.

A. I don't see why there should be any criticism. I feel it is the best way to determine the condition of the property.

Q. Then why didn't you depreciate this unit of property on a formula just like you depreciated the field lines under the ground?

A. This is a particular item of property that is pretty hard to determine by physical condition—observation of physical condition, but that is an exceptional item.

Q. It is a considerable item of property, isn't it, according to your Statement 1, \$931,000 some odd dollars original cost adjusted?

A. It is less than 10 per cent of the total.

Q. How's that?

A. It is less than 10 per cent of the total.

Q. That is true, but it is a sizeable item of property in the company's total \$10,000,000 as set up on Statement 1, isn't it?

A. I have seen casing pulled from wells, and it has been my experience that the condition of casing would be higher than the amount of depreciation that I have shown, so I believe that I have used a conservative figure in applying that 31 per cent.

Q. Yes, but what I want to know, you were so definite in saying that you can get the closest estimate of a per cent condition, or accumulated depreciation, as you call it, from actual inspections of the property—in fact, you stated that if it were done again that would be the most satisfactory way of doing it, didn't you?

A. Yes, and if one item amounts to maybe less than five per cent of the two properties, was an item I couldn't satisfactorily observe, I wouldn't throw out all of the remaining 95 per cent that I can observe properly.

Q. Now we are just on this one plant of Canadian River.

A. Well, in that case it would be 90 per cent against ten per cent.

Q. And that unit of property, although it comprises more than ten per cent of the total property, you would be satisfied in not having the opportunity of inspecting any portion of it and relating such inspection to a per cent condition?

A. If somebody could tell me a better way of finding the condition and I was satisfied with it, I might use an alternative method, but I figure I have been pretty conservative in doing it this way.

Q. In other words, you would sacrifice the method of determining per cent condition because you couldn't determine that on this item of property?

A. I didn't say that. Referring to that particular one, I used a substitute method.

Q. Although in using that method you can't actually relate the present physical condition of that unit of property to whatever depletion you find?

A. No. If I could have, I would have used the condition I found by the other method.

Q. So on that unit of property the method of determining accumulated depreciation by observation just falls by the wayside?

A. This is a kind of special case here.

Q. You didn't attempt to ascertain how the company was able to satisfy itself in applying depreciation to that unit rather than depletion?

A. Satisfy itself as to what?

Q. As to the correctness of the method of depreciating this unit rather than depleting it.

A. I believe it is a depreciation item but I don't know how they can depreciate it without getting in there to see the casing and that can't be done, so I made no further investigation of why they did it.

Q. So you just determined that because you weren't able to get into the well to actually see the physical condition of the casing that your method of determining the per cent condition wouldn't operate?

A. No.

Q. And you would have to take a substitute method and deplete the unit?

A. I have used a substitute method which I feel is quite conservative.

Q. And you don't think that situation would be applicable to other units of property that you are able to see?

A. No, we have sampled enough of the property to determine what the overall condition is.

Q. Although you have seen only a very small portion of the pipe that is underground?

A. We sampled it at uniform intervals, using the best engineering knowledge that we know of to determine the condition of the pipe in the field and to determine the condition of the pipe without going to the absurd expense of uncovering the whole line.

Q. And you definitely are convinced by making those inspections you can accurately relate the accumulated depreciation in those particular units of property by using your formula of inspecting just certain portions of the pipe?

A. More accurate than what?

Q. Than taking into consideration the life of the unit and other factors that are contemplated.

A. I don't know how you would determine it. I don't know what its life is or will be until it is retired.

Q. You haven't taken into consideration at all the life that unit will function in your field line, have you?

A. We haven't found out this piece of pipe is going to be pulled out of the line in 1941, and that piece is going to be pulled out of the line in 1961, or that piece in the year 2000; no, we haven't done that.

Q. You don't know how long that particular unit will be in service?

A. No, and nobody else does, either.

Q. You haven't attempted to estimate it?

A. No, we haven't.

Q. You haven't related the life of the gas supply to the time that unit will be in service, have you?

A. The length of time, you mean?

Q. Yes.

A. No, not in the case of depreciable property.

Q. You haven't for that reason given any effect to the provisions of the definition that appear in the Uniform System of Accounts?

A. Well, if it says that you should depreciate or amortize it over the life of the field, I haven't followed that.

Q. I will go to your Statement 1, Exhibit 272 again.

These items 213 and 214 under the gathering system, Columns 2 and 3, field line construction and field line equipment, original cost adjusted, \$282,334 and \$864,459, what do those items consist of?

A. Field construction?

Q. Yes.

A. That is the cost of installation of the pipe and fittings and valves included in the 214 account, field line equipment.

Q. That is all a part of the gathering system in connection with the lines underground?

A. That is right.

Q. How are these inspections made?

A. I have explained how those inspections were made.

Q. The same way as all field line inspections?

A. Yes.

Q. Well, you would have to make these at particular locations in order to be able to at least observe certain numbers of those units, wouldn't you?

A. Let me be sure as to just what you are referring to here.

Q. Let's take 214, field line equipment. Do you know at what locations you would make inspections of that unit?

A. We made the inspections uniformly spaced and the number was determined by the spacing of approximately \$2,000 worth of original cost—I beg your pardon. I mean \$10,000 of original cost.

Q. In other words, these inspections were spaced the same as the field line inspections and locations?

A. Yes, sir.

Mr. Dougherty: Mr. Lange, that is what they are, the field line equipment—that is, the pipe in the gathering system.

Mr. Lange: Account 214?

Mr. Dougherty: Account 214, pipe and fittings.

By Mr. Lange:

Q. 213, is that part of the same unit?

A. That is the same as the transmission line. They don't separate installation from the pipe. When it is field lines, however, they separate the installation from the pipe.

Q. What I am getting at is this: The same inspection location applied to both of those units? You made one inspection for both of them?

A. We inspected the pipe at that particular point where that particular amount of construction went in but we didn't observe the construction.

Q. I notice that you have given a 7 per cent accumulative depreciation in your Statement 1.

A. That is correct.

Q. That is the same per cent Mr. Rhodes applied to the main line unit?

A. As I recall it, it was.

Q. The main line pipe?

A. Main line pipe and installation.

Q. How do you arrive at that conclusion?

A. I explained that we did this exactly the same as we did the transmission lines of the Canadian River Gas Company and the Colorado Interstate Gas Company in Mr. Rhodes' testimony and his outlined sample he gave the engineers for the Federal Power Commission.

Q. Aren't these units of property subject to be moved as distinguished from permanent locations occupied by main transmission lines?

A. There is more likelihood of it, but in looking over the books I didn't seem to see much indication of it.

Q. Not any of the smaller lines were moved, either?

A. What size lines do you mean?

Q. 2-inch.

A. I don't know whether the 2-inch lines were moved or not, but it is a small per cent of the total.

Q. Were there any 4-inch lines moved?

A. I don't recall just what percentage, but I believe that it is such a small percentage that it would not represent much of the value that is set out here in Account No. 213.

Q. These lines were laid at the same depths as these main transmission lines were laid?

A. I think the 22-inch line is the same.

Q. I am not referring to F-1 now, but I am referring to the other field line.

A. I don't think there was very much difference, but I would have to investigate.

Q. When you made your inspection, weren't you able to tell at what depth those lines were laid?

A. I did know but I don't remember how deep this 4-inch line was as compared with the main transmission line.

Q. Ordinarily the field lines are not buried at the depth the main transmission lines are?

A. Not the main transmission lines, no.

Q. You say you didn't find any of those lines had been moved, or very few of them had been moved?

A. I didn't make a complete study of that, but in preparing the inventory I was able to note to a certain extent that it appeared to me as not being a big factor when compared to the total.

Q. So you just took the same percentage that applied to the main transmission line?

A. No, we observed the conditions of the field lines independently of the main line.

Q. Without applying the weighted average to both the main line and the field line?

A. No, the field lines were figured separately.

Q. Did you arrive at the same percentage?

A. That is correct.

Q. Now, these items 221 and 224, the compressor station units, they were inspected in the same fashion Mr. Rhodes inspected the ones listed in Exhibit 68 and Exhibit 70?

A. They were inspected by the same men as the items covered in those exhibits were inspected in the same way.

Q. You referred to this Statement 1 as setting forth adjustments to original cost, Page 8, Exhibit 272.

A. What page?

Q. Page 8.

A. Yes.

Q. You say: "To apply the determined extent of depreciation and depletion to original cost, it was necessary to segregate therein certain general construction costs which had been distributed"

A. Wait a minute.

Q. . . . which had been distributed to the several accounts, which adjustment is shown on the attached Statement No. 2."

Referring first to Statement 1, where do those adjustments appear?

A. The amounts up above do not include the general construction cost set down below.

Q. But you didn't apply adjusted figures there as you reclassified those items, did you not?

A. I considered an adjustment and a reclassification as the same thing. That is what I meant by that.

Q. What was the purpose in taking them out of your original cost and setting them forth separately under Item 20?

A. The amount of depreciation applied to these general construction costs is not the same as the amount applied to the property. That is explained on Page 7 toward the bottom there.

Q. Yes, but they are applicable to each unit of property, aren't they?

A. That is true, but if a piece of pipe depreciated so you had to replace it, you wouldn't have to go and design that line to replace it.

Q. You just took it upon yourself to take that out of original cost as per books and set it out separately under Item 20?

A. That is correct.

Q. You applied a different per cent of depreciation to that item than would have been applied if it had been permitted to remain as it had been on the books?

A. That is correct.

Q. How do you justify that?

A. I just explained that if you had a piece of pipe in a pipe line or a section of the line that had to be replaced you wouldn't have to redesign the line to replace that pipe, and if you had a building where the roof needed to be replaced you wouldn't have to redesign the building to replace the roof.

Q. On that particular item you decided not to follow the company's accounting practice but instead you took them out of the original cost figures and set them up separately?

A. That is correct.

Q. Did you have in mind the provision of the Uniform System of Accounts on that character of treatment of the item referring particularly to Instruction 6, Page 42?

A. I determined what I thought was the depreciation applying to the property.

Q. And you didn't follow the company's treatment of the item at all?

A. I believe not.

Q. I believe you stated that you didn't hold yourself out as an accountant?

A. I didn't claim I had.

Q. You wouldn't be able to say that was good accounting practice or not, your method?

A. Good accounting practice not to depreciate overheads?

Q. To treat them as you have, contrary as to what the company has treated them.

A. I wasn't treating this depreciation as an accounting item, as I was trying to determine what the actual depreciated cost of the property was and that didn't enter into it.

Q. You related it entirely to an engineering approach?

A. Principally, yes.

Q. I just want to be certain that what you say in Exhibit 273 is exactly how you proceeded. You quoted Mr. Rhodes on that, that it was determined from observations of the physical conditions of the property.

A. That's right.

Q. So you didn't attempt to serve any accounting problems in connection with the treatment?

A. No, I didn't.

Q. Or you didn't give any consideration to what violations of accounting method that may follow, if any?

A. I didn't make any violations in accounting because I wasn't interested in the accounting.

Q. Well, if you weren't interested in the accounting of it and didn't attempt to hold yourself out as an accountant, how did you know that you hadn't violated any principles of accounting?

A. Because I wasn't setting forth an accounting exhibit.

Q. You didn't in any fashion intend to relate your treatment of depreciation and depletion to any accounting method at all?

A. No. I didn't try to tie this into the amount of depreciation that they should set up on their books for a year.

Q. Or as to any method that accounting practice would sanction for the treatment of depreciation or depletion?

A. Oh, I think that they would sanction what I have done as part of their determination of what they should set up.

Q. But you don't claim that you have any knowledge of proper accounting procedure at all?

A. I am not claiming that I am an expert accountant.

Q. And further in connection with that very item of general construction costs, item 20 of Statement 1, again, I see in addition to your treatment of that item separately from ~~the~~ way it has been treated by the company, you determined the amount of depreciation just as a judgment figure, didn't you? You determined the amount of accumulated depreciation as—

A. I believe I made a statement in here that "All things considered one-half of the total amount of undistributed construction costs is appropriately considered as depreciating with the depreciable property."

Q. Now, when you get down to this line: "All things considered one-half of the total amount . . ."

A. That's just what I read.

Q. That is purely a judgment figure, isn't it?

A. It is based upon our experience as engineers and judgment of the firm for properties like these properties.

Q. Do you mean a judgment as engineers without giving any consideration to the actual history of this particular unit of property?

A. Well, comparable properties. We have been constructing gas lines.

Q. Well, did you give any consideration to the fact that those general construction costs are overhead, as you may call them—are still in 100 per cent condition as the property goes out?

A. I didn't say that.

Q. What?

A. We took one-half of the depreciation.

Q. One-half?

A. One-half.

Q. Well, then, how do you assume that one-half would be the proper figure applicable?

A. I have told you it is based upon our experience as engineers, knowing what kind of work has to be done and what would have to be done if you replaced part of this property.

Q. Well, that one-half, though, that you arrived at in the life of your experience would represent 100 per cent condition of the overhead item, wouldn't it?

A. One-half of what?

Q. The one-half that you took would be in 100 per cent condition, wouldn't it?

A. One-half would be in 100 per cent condition and the other half would be depreciated according to the rest of the property, is that what you mean?

Q. Yes.

A. That would be one way of figuring it. We took one-half of the depreciation overall.

Q. And applied that as a judgment figure in the light of your experience?

A. Yes.

Q. Then under that method of treatment, that one-half, if you filled them out, it would be in 100 per cent condition at the time the property was ready for abandonment?

A. Half of the overhead?

Q. Yes.

A. Yes, if you worked it that way it would be.

Q. And the company never took that position in treating these overheads in that fashion on the books, did they?

A. No, and they didn't depreciate land, either.

Q. How did you treat rights of way, Item 206, Statement 1?

A. We didn't depreciate that.

Q. No. Now, then, where do you explain your treatment of land, rights of way?

A. It is Item 3.

Q. Oh, yes. No depreciation was taken on Account No. 206, rights of way, was there?

A. No.

Q. Now, what were you just about to say as to the company's treatment of that item?

A. I say, in the case of land they don't depreciate land, either, and we didn't depreciate land.

Q. Well, you mean land held in fee?

A. Land held in fee, yes.

Q. How about rights of way?

A. I am not sure what the company does about that.

Q. You gave no consideration to the treatment the company gave that item?

A. No.

Q. Well, these rights of way are distinguished from land held in fee, aren't they?

A. Yes.

Q. Well, if the line is abandoned or not used, what is the value of those rights of way?

A. If the pipe lines are retired on account of depreciation they would put another one in there just as good as it was before.

Q. Well, who would put another one in there? We are talking about this particular line right now.

A. Well, if the property is abandoned it is no longer an operating property.

Q. Well, what value would rights of way have?

A. The rights of way would have no value if you weren't operating the property.

Q. Where do you show any land held in fee in your Statement 1?

A. Statement 1, Account 218, "Field Measuring Stations and Land."

Q. Is that the only land the company has in fee in

A. In the production and gathering systems themselves, but there is part of the land in the general system that we have allocated to these properties.

Q. Where does that appear?

A. That is on Statement 3, Account 218, "Land Bivins Camp."

Q. Item No. 1?

A. Yes.

Q. Where else?

A. I believe those are the only items of land held in fee.

Q. So you have treated land held in fee and rights of way in the same fashion?

A. That is correct.

Q. Now, I believe you stated that the only time that you ever had anything to do with the computation of service lives was working under someone else in connection with the valuation of this steam plant?

A. I believe that those are the only ones that I recall right now.

Q. You haven't made any attempt to estimate the service

lives on any of these units of production and gathering properties in this Exhibit 272, have you?

A. No, I haven't.

Q. You didn't think that was of any necessity in determining your accumulated depreciation?

A. No.

Q. It would not?

A. No.

Q. Regardless of the service life of any one of those units that you have depreciated, that wasn't essential to the determination of your accumulated depreciation figure?

A. Well, I don't know just what you mean by service life, but we found out actually how much depreciation had actually taken place. Of course, that might enter into service life.

Q. Well, in your treatment of the gas well equipment account, 212, where you found that you weren't able to apply your method of inspection for the determination of depreciation, you depleted that unit, didn't you?

A. I said as an alternate method I used the same figure as I found for the depletion of gas well construction.

Q. Well, doesn't that have some relation to the determination of the service life of the unit?

A. I was determining the depletion of the gas well construction.

Q. Well, in determining service lives, relating it to the experience you had in connection with that steam plant, you found it helpful in setting up your accumulated depreciation there, didn't you?

A. I found it helpful for what?

Q. You found it necessary, didn't you?

A. Necessary to do what?

Q. To determine the service lives.

A. I didn't determine it myself. I said I worked on that job.

Q. They were determined, weren't they?

A. I don't know whether they determined service lives or determined the amount that should be set up on the books for depreciation.

Q. Well, as I understood you to say, a service life study was made in connection with the determination of setting up depreciation on the company's books.

A. The service life might be interpreted two ways, and I want to explain that I didn't get into very much detail on that job. I just mentioned that job where work of that nature was done, but I didn't have very much to do with it.

Q. In all of your experience in connection with valuation work, haven't you ever made any study of the use or usefulness of service life estimates?

A. We have made some estimates of the rates that should be set up on the books for depreciation annually, but I haven't had so much to do with those things. I have come off of one job and maybe I would help out some.

Q. And you haven't had occasion to make a study of the use of service lives in determining your depreciation of any units of property?

A. Determining depreciation?

Q. Yes.

A. You mean to be set up on the books.

Q. Yes.

A. Well, I said we have made field observations for the accountants and what figures they should set up for depreciation.

Q. Well, so in that particular instance you don't recall at all how they proceeded?

A. I am not sure of the final figures.

Q. Well—rather, the mechanics involved?

A. No, as I say, I never have been in charge of one of those jobs. The work I had to do on that was just incidental.

Q. Well, don't you think as a matter of determining accurately the accumulated depreciation in any unit of property that if you first determined service life that you would have a more dependable basis to work with, rather than just periodic inspection alone?

A. I would like to know how you would find a service life first.

Q. How you find the service life?

A. Yes.

Q. You have never made a study as to the method or manner of making those determinations?

A. I have seen lots of it done where they sit in the office and say the service life is so much.

Q. Is that what you did in connection with that steam plant?

A. No, it isn't.

Q. How did they go about it?

A. I said that I am not sure of the details on that.

Q. They found it necessary, didn't they?

A. To set up a service life?

Q. Yes.

A. They determined how much depreciation should be set up on the books each year, as I understand it, and I have stated I didn't have much to do with that job.

Q. You don't mean to say that isn't a proper way of proceeding?

A. It is not the proper way to make a guess as to what service life is.

Q. Is this inspection one of just a certain number of units of property without relating it to the other factors that are set up in the Uniform System of Accounts definition of depreciation to correctly determine the accumulated depreciation in a unit of property?

A. I think the proper method is to go out in the field and inspect it as we have. I feel we have the amount of depreciation that exists in this property.

Q. Whenever that has to be done again at some time in the future, you are going to go about it in the same fashion, doing it all over again?

A. If you did it all over again you would go about it in the same fashion.

Q. You would think that to be the most practical way of setting it up on the company's books over a period of years?

A. I wouldn't expect the company to have us coming down here each year to find out how much depreciation had taken place for the current year, no. I am not setting up something on this exhibit to be used on their books as the rate of depreciation.

Q. You are not?

A. No.

Q. What are you setting it up for?

A. I wanted to determine how much depreciation has taken place in this property.

Q. Why are you computing it on this basis if you don't expect the company to pay any deference to it?

A. I don't know whether they will or not. That wasn't

my job. My job was to go out and find out how much depreciation and depletion had taken place in the property.

Q. Regardless of what the company may record on its books?

A. That is right.

Q. Without relating it to anything the company had heretofore done in the treatment of the items on its books?

A. No, I didn't relate these figures to their figures as far as the depreciation goes.

Q. As far as you know, you don't know what character of entry is contemplated to be made on the company's books as to depreciation?

A. I don't know.

Q. You didn't in any manner take into consideration the company's past experience or requirements or its past history in determining your per cent depreciation or accumulated depreciation?

A. Experience as to what? What do you mean?

Q. As to the unit of property treated by you, the history of those units.

A. You mean the property that was retired?

Q. The units of property that you treat in Exhibit 272, all of them.

A. You mean items that have been retired prior to then? I don't know what you mean.

Q. Those that are to be retired as well as those that were still in service when you made those inspections.

A. Those retired weren't inspected as they weren't there.

Q. You gave no consideration to those retirements at all?

A. They weren't there and we didn't inspect them.

Q. You don't know and didn't attempt to relate your inspections in 1939 to the company's past history or experience with reference to retirements?

A. There is no retirement in here.

Q. You don't take cognizance of any retirements but you didn't take cognizance of what happened prior to the time of your inspection or as to what retirements might take place in the future?

A. We didn't estimate what the retirements would be in the future as we were inspecting the property that existed at that date.

Q. Mr. Roberts, on your Statement 2 of the exhibit, I call your attention to the general construction costs that are set out there under Items 20 and 21, the allocations that you made. Can you identify these items of \$47,668 in Column 2 and \$6,402 in Column 6? I notice you have a notation at the bottom of the statement that the A figure affixed to each one of them means plus.

A. That simply means we took them out from above and added them to the general construction cost below. The heading over all of those items is "Deduct General Construction Cost;" therefore, if we had followed that, we would have deducted this item under "General Construction Cost" which would not have transferred it, so we indicated that was a plus item rather than a minus item and it simply transfers it from the direct cost above to the general construction cost below.

Q. In other words, those items in Column 5 and 6, the construction costs, would be distributed by the company and you redistributed them, did you not?

A. That is right.

Q. And you set them apart on Line 24 as separate items?

A. That is right.

Q. Mr. Roberts, I want to ask you this: Have you ever heretofore set up any comparable depreciation and depletion figures for any other plant than the Canadian River and the Colorado Interstate?

A. We have made estimates of the amount of depreciation of almost all these valuations I worked upon.

Q. The depreciation?

A. Yes.

Q. In which of those did you determine any depletion figures?

A. Depletion?

Q. Yes.

A. Let me see. I worked on various jobs where the depletion was involved, but as far as my—

Q. In any extractive industries?

A. Most of it has been in the gas industry, the natural gas industry. We usually had somebody else that did that and maybe I would help along.

Q. You haven't heretofore set up any depletion schedule in connection with any natural-gas company, have you?

A. No, but it is a very simple matter. You have so much gas to take out; so much gas, and there will be a certain amount left. It is a simple mathematical formula and if you have so much investment there it gets that rate, so anybody can do a thing like that.

Q. It is just a matter of simple arithmetic?

A. The geologists can tell me the figures and with-
drawals and I can figure it or anybody else can figure it.

Q. This determination of accrued depreciation is an entirely different problem?

A. That involves more detailed inspections. You can't go to a lease and look at the gas below the ground. You can go to a pipe line and move the earth off of it and look at it but you can't do that in a lease.

Q. You get into the realm of estimating when you start determining your per cent condition, don't you?

A. No, I think depletion is more in the realm—

Q. You just stated you got actual figures there from somebody and—

A. I said if they supplied the correct figures—

Q. You presume they are correct?

A. That is a mathematical calculation.

Q. You don't go beyond the presumption as to whether the figures they supplied are correct or incorrect?

A. I believe they are as accurate as could be determined. Not being a geologist, I didn't go over his work and make an independent study of it myself.

Q. You wouldn't care to get into that province of it, would you?

A. It might be an interesting one to take on.

Q. These calculations of the geologists would be more accurate than anyone else's calculations?

A. Be more accurate?

Q. Yes.

A. From their experience and great knowledge of the field, they know what is taking place. Some of them may differ but I think the ones that are the most qualified know pretty well.

Q. That is it. In other words, you begin with definite figures that they give you in determining depletion and there aren't any estimates you make at all?

A. I don't make any estimates at all. It is strictly a mathematical problem.

Q. The mechanics of the determining of depletion, as far as your province is concerned in constructing an exhibit like this is very simple when you are treating depletion alone?

A. It is.

Q. But where you have to determine per cent conditions with the use of your formula, you get into the realm of making estimates?

A. We correlate the facts as we find them ourselves. In the other case the geologists correlated the facts and we used them.

Q. That's right, and you took the figures as they gave them to you and you didn't apply any estimate?

A. No, that was just mathematical from that point on.

Q. But you do necessarily have to apply estimates in determining your per cent condition in arriving at these depreciation percentages as computed by you?

A. We make an estimate based on the best engineering knowledge of how properties should depreciate.

Q. You think that delving into the realm of estimates is much more practical than to apply figures as you do in determining your depletion?

A. I think it is a lot more practical to look at the pitting on pipe than to make an estimate on something underground that you don't know the conditions of as well as you do about the pitting of the pipe.

Q. Yes, these pipe pittings that you see a, just certain portions of your pipe, nothing else?

A. By sampling method we can determine quite accurately what the condition of the pipe is as a whole.

Q. Yes, but after all it is an estimate.

A. Yes, it is an estimate.

Q. And it differs in that respect very basically from the determination of depletion as you have made it?

A. No. They first had to make an estimate of the gas that was in there and the gas that was taken out.

Q. Well, as far as you are concerned, though, you didn't have to make any estimate at all in applying your depletion figures?

A. No, I said it was just mathematical as far as I was concerned. As far as the way I figured it, it was just mathematical, but they were based on estimates by others.

(Vol. XCVII, pp. 15084-15122.)

Q. When you put a depreciation of seven per cent on the field line equipment, Account No. 214, is that an overall percentage for the whole field pipe line system as represented by that account?

A. It is.

Q. And in arriving at that, do you weight in an average or take into consideration the specific condition of all of the pipe as found in the inspection made?

A. Yes.

Q. Would it be correct to say that you might have some pipe there that was only in 70 per cent condition and in others it might be in 98 per cent condition?

A. It is entirely possible.

Q. This percentage figure you give is not with reference to any particular section or any particular line?

A. No, it applies to the account as a whole.

Q. And to the property as a whole of that character?

A. Of that character, yes.

Q. A number of questions were asked you in connection with the determining of the condition of pipe by the number of years the pipe was in the ground. Is it at all necessary for you to know the number of years the pipe was in the ground in order to determine the physical condition by observation?

A. No, it is not.

Q. Do you find at times pipe that has been in the ground 30 years might be in better physical condition than pipe that has been in other places ten years?

A. I have often seen that in inspecting pipe.

Q. Your method, as I understand it, is to find out where between zero and 100 lies either the depreciation or the condition of the property?

A. That is correct.

Q. What you did in this case was by observation to determine that relationship between zero and 100 was seven per cent for depreciation overall?

A. That is correct.

Q. In connection with the matter of measuring pits and considering pits, does the method Mr. Rhodes employs and you employ involve an estimation of what the deepest pits in a joint of pipe 40 feet long would be, making that estimation by some means of considering those which are actually observed?

A. Yes, by observation and the use of the formula we could determine what the deepest pit would be in a 10-foot section, a 20-foot section, or a 40-foot section.

Q. I believe Mr. Rhodes explained that; did he not?

A. I think he went into some detail on that.

Q. Do you, however, make that estimation and consider the depths of pits so determined by your formula as well as those you actually observe?

A. We do.

Q. When these inspections of Canadian River pipe were made, do you know whether any of the Federal Power Commission's engineers were present and made observations of their own?

A. Yes, they did at the same time.

Q. A number of questions were asked you with respect to previous determinations of depreciation as having been made in connection with reproduction cost estimates of property. Are these percentages which you have found as being accumulated depreciation related to the physical property itself?

A. Yes, they had to do with how much of the total depreciation had taken place and it was determined in the form of percentage.

Q. Could that properly be said to be a physical factor with reference to the condition of the line as distinguished from any monetary factor?

A. Yes.

Q. If you want to find out the per cent depreciation in all the property, you could by weighting these various percentages get some overall percentage?

A. Yes, that is generally the way we do.

Q. But in order to know what that would be in dollars, is it necessary to relate that percentage or those percentages to some dollar figure?

A. Yes.

Q. Now, whether you relate that to a dollar figure that was the actual cost of the property when installed or whether you relate that to what it now would cost to replace that property, does that have any effect upon the actual percentage of depreciation physically that has occurred?

A. Not for those specific items, but if you are averaging in different things with a different weighting, naturally the percentage might vary slightly.

Q. That would be because of the different dollars that are reflected in the different property accounts?

A. That is correct.

Q. Questions were asked you about rights of way, something about the fact that upon abandonment of the pipe line or any pipe line that right of way then would expire. As far as the physical condition of the right which the land owner grants for the pipe line company, is there any difference in ~~that~~ the day before the pipe line is retired and the day immediately after the pipe line is put into operation?

A. Not as far as I can see.

Q. In using that term "right of way," I am referring to the grant which the land owner gives and not the physical condition of it. When abandonment does occur, there would be a hundred per cent retirement immediately, would there not?

A. There would.

Q. With respect to the overheads which you say do not depreciate, would that same thing hold true; namely, that there is no depreciation but upon abandonment they are expired or are retired at once?

A. That is right.

Q. Do those overheads serve their purpose and serve the various things that were done as the result of their expenditure in the same way immediately before abandonment just as after they are expended?

A. Yes.

Q. What you are talking about here is not an amortization of either rights of way or of overhead but physical condition?

A. That is correct.

Q. With respect to depletion, do you know of any way to determine what depletion has taken place in a gas property, a natural gas leasehold, except by having knowledge of the gas that has been taken out of it with reference to what was there?

A. No, I do not.

Q. Isn't that what depletion means? Isn't it the depleting of what ever the resource is or whatever the product is?

A. That is my general understanding and the way I have seen it used.

Q. If one-half of the gas has been taken out, then you would say there had been 50 per cent depletion of that reserve?

A. That is correct.

Q. And if you wanted to get that in dollars you would apply it to whatever your dollar base was?

A. Yes.

Q. In arriving at depletion, as I understand your explanation, you would figure it in dollars for each year?

A. That is what I did.

Q. That is, you would take the ratio between the gas withdrawn during the year to the quantity that was in there at the beginning of the year?

A. That is right.

Q. If that happened to be 10 per cent, you would compute depletion for that year as 10 per cent of the gas whether it is cost or otherwise?

A. That is correct.

Q. You did that for each year?

A. That is correct.

Q. When you got to the years through 1938 you added up those yearly or annual dollars of depletion and that gave you the total depletion for the whole period?

A. Yes.

Q. Then, as I understand it, you eliminated any retirements that had taken place at leaseholds or wells prior to December 31, 1938?

A. That is correct. We made that adjustment first.

Q. What you were doing was figuring depletion on the property which was in the possession of the company on December 31, 1938?

A. That is right.

Q. Then after having added up the annual dollars of depletion, did I understand you related that to the original cost as represented here and that gave you the percentage of 36 per cent?

A. That is the way it was done.

Q. 36 per cent is the result of the computations we have discussed?

A. Yes, dividing one figure by the other.

Q. That same thing was done with gas well construction?

A. Yes.

Q. I assume you would have the same percentage of depletion to apply against whatever the cost of either gas well construction or equipment was at the beginning of the year?

A. That is right.

Q. That is, if you found 10 per cent of the gas had been taken out that year, that 10 per cent would be applied both against the cost of leaseholds and also against the well construction and equipment?

A. That is right.

Q. And in doing that you arrived at the dollar amount of depletion for each year?

A. Yes.

Q. Adding those up you then related that to the original cost and that is how you got the 31 per cent?

A. That is correct.

Q. What I wanted to bring out was the 31 per cent was the result of the dollar computation each year rather than a direct result from percentage computations.

A. It is determined as an overall and divided back.

Mr. Dougherty: That is all.

Récross Examination.

By Mr. Lange:

Q. Mr. Roberts, you just stated your per cent depreciation or your per cent condition had no relation to dollars or value at all, is that right?

A. I said we first determined what per cent it had depreciated and then applied it against the dollars. If you take the overall percentage that was determined it would reflect the dollar weighting.

Q. Let's see how your method works out. Just for the sake of argument, let's take your final suspension of operations. I think according to your salvage value exhibit it was in January 1956, wasn't it?

A. According to that exhibit it was.

Q. And the plant has been in operation since sometime in the year 1928, hasn't it?

A. Yes.

Q. Now, at the end of the year 1938 you made this inspection of the property units and applied to each of them a per cent condition, didn't you?

A. Yes.

Q. You took the per cent condition and related it to what you determined accrued depreciation and then arrived at the per cent of accumulated depreciation which you in turn converted into dollars, didn't you?

A. Yes.

Q. And you applied that against what you determined the original cost adjusted for every unit of property?

A. Yes.

Q. Well, let's take one unit, the main line pipe, say, that was given a percentage. It was given a 93 per cent condition, as well as your field line pipe, wasn't it?

A. Main line pipe on the Canadian River was the same as that.

Q. Your field line pipe in Exhibit 272 was given a 93 per cent condition, wasn't it?

A. It was.

Q. That, related to accumulated depreciation, gave you a seven per cent accumulated depreciation which you in turn converted to dollars?

A. That is correct.

Q. And you subtracted it from your term "Original Cost Adjusted"?

A. It is not subtracted on the statement there as it just shows the amount of accumulation depreciation there.

Q. It just shows the amount of accumulated depreciation.

A. Yes.

Q. Now, then, supposing that you were to have another appraisal which included inspection of these units of property in the year 1954, let us say, and you would find that the main lines or field lines were in 93 per cent condition. You would then relate the seven per cent accumulated percentage to that unit, wouldn't you?

A. If we found it had depreciated that much, we would.

Q. If you found it depreciated only that amount, you would have a 93 per cent condition at that time?

A. Yes, sir.

Q. With a related seven per cent accumulated depreciation against that unit?

A. Yes, sir.

Q. Well, then, the next year you would come to what you might term the end of the road, the operations would

cease and the plant would be salvaged, what would you do then?

A. It would be salvaged for what you could get out of it.

Q. When does that difference in value take place between your 93 per cent condition you have in 1954 and the zero condition which you have in 1956?

A. When it ceases operation.

Q. Does that all take place in one year or in six months?

A. The difference between the 93 and zero.

Q. The difference between 93 and zero?

A. If we inspected and found that property was in that condition at that time, when it was no longer operated it would no longer be of use.

Q. Under your method of computing depreciation, that entire difference in value or decline in value takes place in one year, doesn't it, from 93 per cent to zero?

A. You are taking quite an extreme case there.

Q. Let's assume that the line was properly maintained as it is now and you would have a 93 per cent condition or a 90 per cent condition.

A. If you went out of operation, of course then you wouldn't have that pipe as being useful.

Q. That is right. In other words, if you had a 90 per cent condition in 1954 from your inspection and the next year the operations ceased and you salvaged the plant, you would have a zero there. When does that decline in value take place?

A. If we inspected it at a certain date and it went out of operation at another date, it would take place between the two dates:

Q. It would take place in the interim?

A. If a year's difference, it would take place at the date of ceasing operation.

Q. So it could take place within one month if your inspections were one month before you ceased operation in 1956?

A. An explosion could take place in an engine and destroy the engine in the same way.

Q. We will just assume normal operation and normal maintenance. As I say, you would by inspection find that the main line pipe in the middle of the year 1954 had a 90

per cent normal condition. That isn't unusual, is it, to assume that?

A. That you had 94 per cent condition?

Q. A 90 per cent condition.

A. Of your pipe line?

Q. Of your pipe line in the year 1954, the middle of the year, say.

A. A pipe line could be in that condition on that date.

Q. Then on January 1, 1955 the line is abandoned and salvaged and there is no salvage there, and then the decline in value would be taking place during that six months, wouldn't it?

A. Yes.

Q. Oh, yes, one more question: What in your opinion would have been the per cent condition of, well, say a unit of main line equipment in 1938 if the company had never expended any funds for maintenance of that main line from the time of its installation?

A. Maintenance of the pipe line doesn't affect the pits on the pipe line. You can't maintain the pits.

Q. Oh, you replace those units that are badly pitted, don't you?

A. When it becomes necessary, you do.

Q. And if they aren't badly pitted—you either have to scrape the pipe or do whatever maintaining that is necessary when it is not required to replace a unit, don't you?

A. You don't scrape the pipe.

Q. Well, what do you do—whatever is necessary to maintain it in proper condition, don't you?

A. Well, you don't do anything to it unless there are leaks indicated.

Q. Haven't you taken out any units of pipe and scraped them and painted them?

A. Not unless there are leaks indicated, or that pipe happened to be exposed and you saw that it was pitting pretty badly and made a further inspection.

Q. What character of main line maintenance has your company carried on?

A. It's not my company.

Q. I mean the Canadian River Gas Company and the Colorado Interstate Gas Company.

A. What kind of maintenance?

Q. Let's confine it to Canadian River Gas Company right now.

A. I haven't made an investigation of what their maintenance has been on these main lines and what they have charged in there.

Q. What character of maintenance is ordinarily carried on in connection with your field lines, for instance?

A. If they did find a leak and it was advisable to put a band clamp on it, they would.

Q. All right, what other item of maintenance is ordinarily carried on?

A. If the top soil over that line washed away, they would replace it.

Q. All right, what else?

A. If the packing in a valve leaked, they would repack it.

Q. Don't you ever recondition any units of that field line?

A. You say, have they?

Q. Yes.

A. I am not sure whether they have or not.

Q. Well, in your experience in connection with that kind of valuation work, you would be familiar with the ordinary maintenance operations that would be carried on in the field, wouldn't you?

A. Every company doesn't carry on the same maintenance policy.

Q. Haven't you familiarized yourself to know what the character of maintenance is that the Canadian River Gas Company carries on in its field operations?

A. We know that our inspections didn't show any badly leaking pipes, and we know that as far as the condition of the pipe is concerned, there was no pipe that was in very bad condition.

Q. Well, then, let's relate this question that I just asked entirely to field lines; if there had been no maintenance carried on whatsoever by the company since the time of the installation of those units, would you still have found them to be in 93 per cent condition in 1938?

A. Probably not. The lack of maintenance is liable to cause fast deterioration but the application of maintenance does not increase the condition. Take, for instance, an engine. If there was a leak in the cooling system, it might be repaired at a small expense, but if that were neglected it might cause the ruining of the cylinders and the pistons.

Q. Well, that's right. That's what I was just getting at.

An ounce of prevention is worth a pound of cure in that instance.

A. That is true.

Q. So an ounce of maintenance at the proper time is very necessary.

A. Absolutely.

Q. I don't believe that you have answered that first question that I asked you: what your opinion would be as to what per cent the condition of this main line—or whether you would have found a 93 per cent condition of this field line of Canadian River Gas Company in December 31, 1938 if there had been no maintenance of any character at all, since the time of the line's installation.

A. I didn't make an investigation of exactly what the company had done in the way of maintenance since the start or what they charged in there. I observed what condition that line was in and if the pipe, if there had been a washout and the pipe had been left exposed to moisture, there probably would have been more pitting there, but that wasn't indicated from our observation, but we didn't need to know just what the company had done to determine what that pipe condition was.

Q. In the light of your experience in connection with the examination and inspection of field lines of similar character, your opinion would be, wouldn't it, that the per cent condition that you would have found in December 1938 would have been lower if there had been no maintenance whatsoever on the line from the time of its installation?

A. You mean the way the books would set a certain charge at a certain amount of maintenance?

Q. No. You found a 93 per cent condition in December 31, 1938.

A. Yes.

Q. Now, if there had been no maintenance whatsoever on that unit of property from the time of its installation in 1928, or thereabouts, up to December 31, 1938, in your opinion, wouldn't the per cent condition of that unit of property have been less than 93 per cent in December 1938?

A. It could have been less or it could have been the same. It might not have been necessary to do any work on the line.

Q. It might not have been necessary—would that have been probable?

A. It depends on the length of the period and the type of the soil.

Q. That was about twelve years.

A. Well, there are other factors that enter into that.

Q. Well, just assume that there were some conditions that arose that made maintenance necessary and no maintenance had been performed.

A. No maintenance had been performed?

Q. Yes.

A. Well, for instance, if the soil was washed away from the top of the pipe, as I said before, and the pipe was subject to alternate the dry and wet and maybe some other elements that would deteriorate the pipe, we would have found that that pipe would have been pitted more than it was if the soil had been put back over the pipe and the line kept with a covering over it.

Q. So if that instance had occurred and there had been that lack of maintenance, you would have found a lower per cent condition?

A. With those other circumstances taking place as I have indicated.

Mr. Lange: I believe that is all on this exhibit.

Redirect Examination.

By Mr. Dougherty:

Q. Mr. Roberts, Mr. Lange asked you about the decrease in value of pipe as a result of abandonment, relating that to inspection which you might make say six months before or a month before abandonment in which you find the condition of the pipe 93 per cent.

Let's assume that you were asked a month after abandonment to go out and determine the physical condition of the property. Might it not still be 93 per cent?

A. Yes.

Q. And whether or not the property is in use, has no connection with its physical condition as you find it on inspection?

A. That is correct.

Q. Is what he is referring to a question of amor-

tizing the investment because of the economic end of the business rather than any depreciation physically that takes place in the property?

A. That's the way I feel about it.

Q. And that pipe, some of it, you have taken up and in good physical condition would still be whatever per cent condition you would find it in?

A. Yes, sir. It would still be in the same condition.

Q. Your figures here are related solely to the physical condition as related to the dollars?

A. Yes.

Q. And have no consideration of how long the property is going to be used?

A. No, we didn't give that consideration in the case of the main line pipe.

Q. Let's assume that having in mind what Mr. Lange talked about service lives, that before the end of the abandonment according to that method of figuring depreciation you would have only a 20 per cent condition; namely 80 per cent depreciation.

In your experience could such pipe be utilized in the operation of a pipe line if its physical condition were only 20 per cent and had actually depreciated 80 per cent.

A. No, because in that condition there, on the average, there would have to be a lot of joints of pipe that were leaking badly and the loss and danger involved would make it not feasible to operate the property.

Q. Isn't it a fact that right up to the last day of abandonment the property has to be in good enough condition to operate to take the gas through?

A. Yes.

Mr. Dougherty: That's all.

Recross Examination.

By Mr. Lange:

Q. What, in your opinion, as an operating problem, is the lowest per cent condition that a main transmission line should be kept in to function properly?

A. I have not tried to determine what the lowest per cent would be.

Q. Well, approximately—to function properly?

A. Well, to be functioning properly you naturally wouldn't want any leakage in the line. You would have to keep the leakage down to a minimum.

Q. What in your judgment would be the lowest per cent that should be permitted?

A. I wouldn't operate a company that way. I would try to go out and find where the leaks were and if I found them I would put clamps over them and if they were bad enough I would recondition the pipe.

Q. That is true. That is proper to keep proper maintenance on the line.

A. Yes.

Q. But I am just asking you hypothetically what in your opinion would be the lowest condition that a line could function properly—main line.

A. I wouldn't operate a line that way so I wouldn't want to state a figure.

Q. Couldn't it be stated by you?

A. Could it be stated by me?

Q. Yes.

A. I have never given it much thought and I wouldn't want to give a figure.

Q. Well, could it ever go as low as 60 per cent?

A. I have seen lines in the ground that were in 60 per cent.

The Trial Examiner: Were those lines operating, Mr. Roberts?

The Witness: Yes, sir.

Mr. Dougherty: Is that gas lines or oil lines?

The Witness: That was a gas line. It was soon repaired after I saw it, though.

By Mr. Lange:

Q. Just as a practical matter, Mr. Roberts, do you believe, for instance, if you had—say you had a 20-year ground lease on some property and at the time that about 15 years of that had expired you were making an appraisal of what that ground lease would be worth. Do you think that a prudent business man would wait until that time to spread the cost of the declining value of that lease, to the 15-year period, or start at the beginning?

A. He would probably amortize that property.

Q. And start at the beginning?

A. Yes.

Q. He wouldn't start at the 15-year period and try to take care of that decline during the remaining five years?

A. Not if it was a piece of land that he wanted to get his money back on. He would probably want to take it at uniform intervals.

Q. Over the 20 years?

A. Yes.

(Vol. XCVIII, pp. 15218-15240.)

Further Testimony of the Commission's WITNESS, HILL

Q. State your name, please?

A. Lee M. Hill.

Q. Where do you reside, Mr. Hill?

A. Denver, Colorado.

Q. Where and by whom are you presently employed?

A. The Federal Power Commission.

Q. At the regional office in Denver?

A. Yes.

Q. And what is the nature of your occupation?

A. Associate Engineer.

Q. And how long have you been so employed by the Commission?

A. Since April 10th, 1939.

Q. April 10th, 1939?

A. Yes.

Q. Did you during the time of your employment with the Commission have any assignment in connection with the present—any portion of the present proceedings?

A. Yes, sir.

Q. That is, engineering work in connection with it, particularly the Canadian River Gas Company and the Colorado Interstate Gas Company?

A. Yes, sir.

Q. Now, before going to that, though, I will ask you, whether you have before you and can read in the record your qualifications in connection with the work that you are doing with the Federal Power Commission?

A. Yes, sir.

Q. Will you do that now, Mr. Hill?

A. "My name is Lee M. Hill. I reside at Denver, Colorado. I am an engineer by profession. I have been employed by the Federal Power Commission at Denver, Colorado, since April 1939. I have performed engineering duties for the Commission and am now engaged in such duties in the capacity of associate engineer.

"I entered the Alabama Polytechnic Institute in September 1921 and there studied mechanical engineering for three and one-half years. I have passed the required State examination for engineers and am licensed to practice professional engineering in the State of Alabama.

"Upon leaving the Alabama Polytechnic Institute in 1924 I was employed by W. E. Brown Engineering Company at Miami Beach, Florida as a draftsman and instrument man. My experience with this company was mostly in design and layout of water drainage and distribution systems and sanitary sewers.

"In 1925 I went to Birmingham, Alabama as a draftsman for the Sloss-Sheffield Steel and Iron Company and remained in that capacity until the early part of 1927 when I was made construction engineer. My engineering experience with this company consisted of design, construction and general maintenance of blast furnaces, by-product plants, steam power plants, power transmission systems, water transmission and distribution systems, water filtration plants, coal and ore washers, mine tipples and electrification of mine properties.

"In February 1929 I was employed by the Southern Natural Gas Corporation and later by the Southern Natural Gas Company as a mechanical draftsman and worked on plans of their natural gas pipeline system, extending from the Monroe, Louisiana gas fields across the states of Louisiana, Mississippi, Alabama and into the state of Georgia.

"In 1930 I was made chief draftsman in charge of plans for a number of major pipe line extensions, compressing stations, measuring and regulating stations, and medium and low pressure distribution systems. In the early part of 1931 I was transferred to the operating department and there designed pipe line and compressor station extensions.

measuring and regulating stations, industrial installations, distribution systems, and all other engineering work pertaining to maintenance and operation of natural gas transmission and distribution systems.

"In 1938 I was made construction engineer and designed and constructed two additional compressing stations. I left the employment of the Southern Natural Gas Company in April 1939 and since that time have been employed by the Federal Power Commission at Denver, Colorado."

Q. Mr. Hill, I will ask you whether or not in connection with your work with the Commission you have prepared an exhibit covering the determination of composite service lives of physical properties of Canadian River—of Colorado Interstate Gas Company?

A. Yes, sir, I did.

Q. Is this the exhibit that I show you?

A. Yes, sir.

Mr. Lange: Will the stenographer please identify that?

The Trial Examiner: It will be marked for identification as Exhibit No. 177.

(Exhibit 177, Witness Hill, marked for identification.)

By Mr. Lange:

Q. Mr. Hill, during what period of time since you have been employed with the Federal Power Commission have you worked on this assignment?

A. Ever since I have been with them.

Q. And that was what month and year?

A. April 1939.

Q. April 1939?

A. Yes.

Q. In connection with this work did you actually go over the property?

A. Yes, sir, I did.

Q. And personally saw the items of property that you would describe and those portions of the pipe that are underground and that you inspected at certain points along the line?

A. Well, some of the inspections I made, not all of them.

Q. Not all of them?

A. No. I did inspect all the property.

Q. You inspected the compressor stations, too?

A. Yes, sir.

Q. Now, did you in connection with this exhibit prepare—or, rather, turning to Page 1 of this exhibit, will you read that statement which was prepared by you?

(Vol. L, pp. 6957-6961.)

"This exhibit was prepared by me and under my direct supervision, and shows composite service lives, by accounts, applicable to the operative gas plant property of Colorado Interstate Gas Company as of December 31, 1939. The annual straight-line depreciation rates shown in this exhibit have been determined from the composite service lives shown therein.

"In July and August 1939 an inspection of the physical plant of the company was made by Federal Power Commission engineers. Compressing, measuring transmission, and general property was inspected. The location, type of construction, operating conditions, degree of maintenance, exposure to weather, and other factors causing deterioration, and the extent of accrued physical depreciation and of accrued obsolescence were noted for all property inspected. The age of most of the units of property was determined from dates of installation as recorded on the books of the company. Operating and maintenance methods were observed, and operating experience was discussed with company officials and supervisory employees.

"Service lives and composite service lives have been based primarily on the physical lives of the various units of property; however, consideration was given to other causes of property retirement whenever such factors were determinative. Company records, from the inception of operation, were analyzed to determine the causes of all major property retirements. These included physical deterioration, caused by wear, tear, rot, rust, decay and the action of the elements; inadequacy; obsolescence, requirements of public authorities; and other causes. Probable future conditions of operation compared with past service conditions were considered. The probable life of the natural gas supply and other factors which have a bearing on the probable service life of the property in each account

were taken into consideration. The system was considered a continuing enterprise which will operate so long as a supply of natural gas is available. The net salvage value of the physical plant of the company at retirement is considered negligible, and no salvage value has been assigned.

"In this exhibit 'adjusted book cost' represents the legitimate original cost of gas plant as shown in reports presented in this proceeding by accounting examiners of the Federal Power Commission. 'Service life,' as used in connection with this exhibit, means the period during which a particular unit of property is used or performs a useful function in the rendering of service. 'Composite service life' means the weighted average service life of all units of property within a primary account classification, determined by dividing the total capital in each primary account by the sum of the annuities applicable to the individual units.

"The general plan of presentation and methods that have been followed in this exhibit are as follows:

"Transmission Lines. The property carried under this heading includes Transmission Line Rights of way (Account 220-D), and Transmission Line Equipment (Account 226-D). Account 226-D includes cost incident to construction of the transmission lines, including labor, teaming, supervision and engineering, overheads, and other expenses, in addition to the cost of pipe, couplings, fittings, valves, and other accessory equipment.

"A total of 368 inspections was made on the main transmission line, which extends from Clayton Junction, New Mexico to Denver, Colorado, and 75 inspections were made on the various lateral or branch lines, an average of one inspection per \$20,000, approximately, of investment in transmission property. These inspection locations were selected by the company, with the exception of a few additional locations which were requested by engineers for the Commission.

"Inspections were made in July and August 1939. At each location selected for inspection, a section of pipe approximately 40 inches long was cleaned. The procedure followed by the Commission's engineers at each inspection was to divide a 36-inch section of clean pipe into three

12-inch sections and take 10 or more pit measurements on each section. These pit depths and the general condition of the pipe were recorded. In addition, if the pipe was coated, the kind and condition of coating in the adjacent uncleaned sections of the pipe were recorded; notes were also made regarding type of soil, soil hydration, drainage, and description of adjacent property.

"The pipe inspection data, together with calculations relating to them, an analysis of the major retirements as shown on the company's records, an analysis of the company's records of pipe line leaks and their causes, consideration of the natural gas supply, and other pertinent information were used as guides, in arriving at a service life for transmission lines.

"These data indicated that 50 years is a reasonable composite service life for all transmission lines. Corrosion has been severe, and pipe replacements relatively high on the lateral lines in the Arkansas Valley and near Denver, and the company has found it necessary to install an extensive system of cathodic protection in these areas to reduce the rate of deterioration.

"For these lines, 40 years is a reasonable service life. The same life (40 years) also was considered reasonable for the 2-inch lateral line to the Fountain Valley School, although no serious corrosion difficulty has been experienced to date on this lateral; however, it is a small-diameter line, built to supply the domestic and space-heating requirements of a single customer. However, giving consideration to the various relevant factors, the weighted average life of both main line and laterals is nearly 50 years; therefore, this composite service life has been assigned to Transmission Line Equipment (Account 226-D), as reasonable.

"The same service life has been assigned to rights of way (Account 220-D).

"Other Transmission Structures and Equipment. Property carried under this heading includes:

"1. Land (Account 218-D) which is non-depreciable.

"2. Leaseholds (Account 219-D) has been assigned to service life of 50 years.

"3. Structures (Account 223-D), which consists of Apishapa, Delhi and Travesser Maintenance Camps, Devine Welding Shop, and a number of other structures located on the transmission system. The principal items of property were inspected. A composite service life of 30 years has been determined for this account.

"4. Equipment (Account 227-D), consists of miscellaneous materials and equipment of many descriptions. The majority of the investment represents materials and equipment with a physical life of 20 years, and this life has been adopted as reasonable for the entire account.

"Compressing *Syste*. Colorado Interstate Gas Company has three compressing stations: Clayton Station, located near Clayton, New Mexico; Canyon Station, located approximately 35 miles northeast of Trinidad, Colorado; and Devine Station, located near Pueblo, Colorado. Since all three of these stations are constructed on the same general design, have similar structures and equipment, and are operated under similar conditions, composite service lives have been determined, by accounts, applicable to all stations, these lives are as follows:

"1. Land (Account 218-C), is non-depreciable.

"2. Leaseholds (Account 219-C), has been assigned a service life of 50 years.

"3. Structures (Account 221-C) consists of main compressor buildings and auxiliary buildings. The principal items of property were inspected in the field. Type of construction, condition of property, and the degree of care used in maintaining it were observed. After giving consideration to the observed condition of this property, the company's past experience, and probable life of the company's gas supply, a composite service life of 48 years was determined for this account.

"4. Other Structures (Account 223-C) consists mostly of frame dwellings at the three compressing stations, used to house the station personnel. After giving consideration to the observed condition of this property and the company's past experience, a composite service life of 34 years was determined as reasonable for this account.

"5. Equipment (Account 224-C) consists of the main compressor units and auxiliary and appurtenant equipment and structures. The principal items of property were inspected and identified in the field. This inspection was made during the period in which main units and auxiliaries were being overhauled, so that it was possible to observe the condition of many parts which it is impossible to examine while the equipment is in operation.

"An analysis of station logs indicates that the main compressor units were operated very little during the period 1929 to 1935, inclusive, but that they have been operated more frequently during recent years. Investigation revealed that, with the exception of some dust trouble at the Clayton station and cooling water trouble at the Canyon station, little difficulty has been encountered with this equipment.

"The facts relating to compressor operation in the past, probable future operations, the probability of retirement due to obsolescence, together with the company's experience in connection with retirements for physical and functional reasons, and other pertinent information, were taken into consideration in establishing service lives.

"A composite service life of 36 years has been determined to be reasonable for this account.

"6. Other Equipment (Account 227-C) consists of miscellaneous furniture and equipment. The probable physical life of approximately half of the property carried in this account is 20 years. The weighted average service life for all property in the account was estimated to be 47 years.

"Measuring System. The property carried under this heading includes: Land (Account 218-M), which is non-depreciable; Structures (Account 222-M); Equipment (Account 225-M); and Other Equipment (Account 227-M).

"The principal items of property were identified and inspected in the field. Type of construction, condition of the property, and the degree of care used in maintaining the property were observed. All but two of these measuring station structures are similar, being Butler steel Buildings. The Denver and Pueblo measuring stations are

constructed of brick. After giving consideration to the observed condition of this property, the company's past retirements for physical and functional reasons, and the prospective future use, a composite service life of 37 years has been determined for structures (Account 222-M), and 28 years for Equipment (Account 225-M).

Other Equipment (Account 227-M) consists of miscellaneous materials and equipment located at the Denver measuring station, the cost of a water well on the Denver measuring station site, and the payment for a one-half interest in a 3-inch water main to supply domestic water at the Denver station. A composite service life of 32 years has been determined for this account.

General Property. The property carried under this heading is comprised of:

1. Office Furniture and Equipment (Account 249-E) consists of furniture, office machines, and similar property. After giving consideration to the kind of property, its use, and to the company's past experience, 12½ years was determined as a reasonable composite service life of equipment in this account.

2. Garage Equipment (Account 253-E) consists of passenger cars, pickups, trucks of various capacities, trailers, and tractors. Some of this property is more in the nature of work equipment than automotive equipment. The service lives of the different types of equipment included in this account vary with the nature of the equipment and with the character and amount of its use.

The fairest method for determining accruals for loss in the service value of this equipment is on the basis of use. However, an accurate record of use has not been maintained. In the absence of such information, loss in service value must be based on age.

From an analysis of the experience of the company, a composite service life of four years is determined as the reasonable composite service life for this account.

3. Telephone System (Account 225-E) consists of telephone rights of way and telephone equipment. Telephone rights of way have been given a service life of 50 years. Telephone equipment consists of copper, copperweld, and

iron wire, together with poles, brackets, crossarms, pins, insulators, guys, and miscellaneous hardware. The entire telephone system from Clayton Junction to Denver was inspected. One pole in each mile of line was carefully inspected for checks, condition of butt, and condition of treatment. A general inspection of the condition and type of construction of the entire line was also noted. Based on the information obtained from this inspection and the company's past experience, a composite service life of 30 years was adopted for telephone equipment.

"4. Tools and Equipment (Account 256-E) consists of miscellaneous tools, and construction and maintenance equipment. The physical life of much of this equipment is affected by deterioration with time as well as with use. A composite service life of 20 years is considered reasonable for the property in this account.

"Undistributed Fixed Capital. The investment carried under this heading includes:

"1. Other Expenses During Construction (Account 203). The analysis of this account by the Commission's accounting examiners indicates that all amounts therein represent pre-construction expenditures, which are primarily expenditures for engineering service and for reports on the feasibility of the project. A period of 50 years for amortization of these costs as determined as reasonable.

"2. Law Expense During Construction (Account 262). The analysis of this account by the Commission's accounting examiners reveals that all charges included in the account represent fees incident to procuring authority to transact business in Colorado, or expenditures which may reasonably be amortized over a period of 50 years from the beginning of operations.

"3. Interest During Construction (Account 266). Taking into consideration the service life of the property to which interest during construction was applied by the company, a reasonable period of amortization for this account is 50 years.

"Property Held for Future Use. Property carried under this heading includes:

"1. Leaseholds (Account 219-C) consists of a leasehold

on which the Purgatoire River pump house is located; and a right of way for the water line from the Purgatoire River to Canyon compressing station.

"2. Structures (Account 221-F) consists of one Butler steel pump house, located on the bank of the Purgatoire River.

"3. Equipment (Account 224-28) consists of water pumping equipment in the pump house, and a 4½-inch O. D. steel water line from the Purgatoire River to the Canyon compressing station.

"All the above property was not being used at the time of inspection and was classed a property held for future use. A composite service life of 33 years was determined as reasonable for this property."

Q. Now, Mr. Hill, the succeeding sheets beginning with "Statement of Composite Service Lives Determined for Property of Colorado Interstate Gas Company," the column headed "Adjusted Book Cost, December 31, 1939," I will ask you whether those figures under that column were taken from Exhibit 139 that has been introduced in this proceeding?

A. Yes, sir, they were. They are adjusted book costs received from the Federal Power Commission Examiners.

Q. The plant account of Colorado Interstate Gas Company and these figures appear in that Exhibit 139 at Pages 49 and 50?

A. I don't have that exhibit, Mr. Lange.

Q. I show you Exhibit 139.

A. Those are the same figures shown in "Adjusted Total"—

Q. Page 49?

A. Under Column 7; yes, sir.

Q. Now, the second column headed "Service Life (Years)," are those the service life figures that were arrived at by you as explained in the written statement of this exhibit?

A. That is correct.

Q. And the third column headed "Annual Straight Line, Rate—per cent"—in other words, you then after computing the service life in years computed the percentage from that?

A. Yes, sir.

Q. In other words, where there is a 50-year service life it is computed at two per cent?

A. Yes, sir.

Q. And in like fashion right down through that third column?

A. Yes, sir.

Q. And the same on Sheet 2 of 2?

A. Yes, sir.

Q. You proceed in the same fashion?

A. Yes, sir.

Q. Now, the figures under Column 1 "Adjusted Book Cost, December 31, 1939" on Sheet 2 of 2, they were taken from Page 50 of Exhibit 139, the gas plant account of Colorado Interstate Gas Company, were they not?

A. I don't know. I don't have a copy of that exhibit.

Q. I will show you Exhibit 139.

A. Yes, sir, they are the same figures.

Q. And I believe you stated this exhibit was prepared by you or under your supervision and direction?

A. That is correct.

Q. In connection with your work on this assignment?

A. That is correct.

(Vol. 1, pp. 6963-6976.) -

EXHIBIT No. 177.

Statement of Composite Service Lives Determined for
Property of Colorado Interstate Gas Company.

Account Number and Name	Adjusted Book Cost 12-31-39	Service Life (Years)	Annual Straight Line Rate
Transmission Lines.			
218-D Land	\$ —	—	—
220-D Rights-of-Way	273,167.20	50	2.00
226-D Equipment	8,910,795.63	50	2.00
Total Transmission Lines	\$ 9,183,962.83		
Other Transmission Structures and Equipment.			
218-D Land	\$ 926.90	Non-depreciable	
219-D Leaseholds	115.50	50	2.00
223-D Structures	59,603.31	30	3.33
227-D Equipment	18,792.11	20	5.00
Total Other Structures & Equip.	\$ 79,437.82		
Compressing System.			
218-C Land	\$ 3,904.51	Non-depreciable	
219-C Leaseholds	523.25	50	2.00
221-C Structures	195,153.67	48	2.08
224-C Equipment	1,198,313.44	36	2.78
223-C Other Structures	188,152.60	34	2.94
227-C Other Equipment	5,320.18	17	5.88
Total Compressing System	\$ 1,591,367.65		
Measuring System.			
218-M Land	\$ 12,210.45	Non-depreciable	
222-M Structures	53,085.76	37	2.70
225-M Equipment	88,539.24	28	3.57
227-M Other Equipment	3,037.29	32	3.12
Total Measuring System	\$ 156,872.74		

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Account Number and Name	Adjusted Book Cost 12-31-39	Service Life (Years)	Annual Straight Line Rate
General Property.			
249-E Office Furniture and Equipment	\$ 29,108.82	12 1/2	8.00
253-E Garage Equipment	67,524.79	4	25.00
255 Telephone System, Rights-of-Way	1,099.11	50	2.00
255-E Telephone System, Equipment	154,568.49	30	3.33
256-E Tools and Equipment	33,930.69	20	5.00
Total General Property	\$ 286,231.90		
Undistributed Fixed Capital.			
203 Entrance Rights of-way	\$ —	—	—
203 Other Expenses Dur- ing Construction	36,925.61	50	2.00
262 Law Expenditures During Construction	46.00	50	2.00
266 Interest During Construction	191,901.80	50	2.00
Total Undistrib- uted Capital	\$ 228,873.41		
Total Investment in Gas Plant	\$11,526,746.35		
Gas Plant Held for Future Use	19,994.71	33	3.03
Construction Work in Progress	29,677.85	—	—
Gas Plant Adjust- ments	2,352,941.17		
Total	\$13,929,360.08		

[Further Testimony of WITNESS HILL.]

Q. Hardly any there. Now, what other operating or past service conditions with respect to other parts of the property were considered by you?

A. I think the equipment, the auxiliary equipment is about all. I don't think past service conditions of a pipe line can have any effect on the life of the pipe.

Q. Did you consider anything else in the inspections made at the test holes of the exposed pipe?

A. Yes, sir.

Q. What else did you consider?

A. We took into consideration the life of the field, took into consideration pipe experience of other pipe line companies and my own experience in the installation and maintenance of the steel pipe in the past.

Q. Have you finished your answer, Mr. Hill?

A. Yes, sir.

Q. Now, with respect to the life of the field, what consideration did you give to that.

A. Well, we received a figure of recoverable gas which is the same as shown in Mr. Luttring's exhibit, and I forget the number of it.

Q. It is about three and a half trillion cubic feet?

A. Something like that, at a 25-pound abandonment pressure, and we made some calculations on the bases of that figure. Do you want me to read these into the record, or do you want to look at them?

Q. Yes, go right ahead.

A. This is headed "Estimate of Remaining Life of Canadian River Gas Company reserves in Connection with Service Life Studies (all figures to nearest million Mef.)" I didn't try to break it down. Approximate annual requirements: Mef., at 16.4 pounds. We made estimates of the amount of withdrawals from the Canadian River acreage. These are all in Mef.

Colorado Interstate Gas Company, Denver Line, 22,000,000; Chicago Line—that is the present Chicago line—22,000,000. We took into consideration the second Chicago line at the time we determined these service lives. It looked possible that that line might be built and so we took it into consideration and then estimated that the Canadian River would furnish half of the present gas that they were furnishing to the Chicago line, which would be 11,000,000.

Q. That's 50 per cent increase?

A. Yes, that's right—which totaled 55,000,000. Understand all these figures are Mcf.

Q. Yes.

A. The Amarillo Oil Company and Clayton Gas Company, 7,000,000; Company use, 1,000,000, which is somewhat high; a total at 16.4 pounds base pressure of 63,000,000.

Mr. Spencer: Annual figures, you are talking about?

The Witness: These are all annual figures.

Total of 14.65—we converted to 14.65—71,000,000. Reserves at end of 1939 (25 pounds abandonment) was 3,636,000,000 Mcf. at 14.65 pound base pressure. Now, that figure was the same figure as used by Mr. Luttring and furnished to us by the Federal Power Commission geologists. The remaining life of the field from 1939, figured on that basis, amounted to 51 years. The expired life from 1928 to 1939, eleven years, or a total life from 1928 of 62 years. Now, that was all figured on a 25-pound abandonment pressure and another increase we made on this thing, and this increase was made of 15 per cent to allow for stimulation, and this allowance was made for stimulation due to rate reductions, voluntary or otherwise.

Percentage increase (15 per cent) is a judgment figure, based on results obtained on Denver line after reduction in space heating rates in 1934, and giving consideration to saturation of the load.

By Mr. Dougherty:

Q. That's sales you are talking about, the 15 per cent?

A. That's right. We have added 15 per cent on the figures which are as follows: Denver line, 25,000,000; Chicago line, present line, 25,000,000; Chicago line, second one, half of the present load, 13,000,000—63,000,000; Amarillo Oil Company and Clayton Gas Company, 8,000,000; company use, 1,000,000; total at 16.4 pounds base pressure, 72,000,000; total at 14.65, 81,000,000.

Taking this 81,000,000 into the previous figure that was furnished to us by the geologists gives a life of that field of 56 years. We came to the conclusion that the life of that field would be approximately 56 to 62 years.

Q. That is from the initial operation of the company? That is the date you are taking the number of years from—1928?

A. That is right, from 1928.

Denver-Chicago—two lines—and Amarillo, would be 56 to 62 years.

Q. What consideration, if any, did you give to drainage that might be taking place in that field, whereby the field life would be depleted because of other withdrawals from the field earlier than would be indicated from your figures—

A. I think you are getting outside of my field a little bit, Mr. Dougherty. I am not a geologist.

Q. What I want to do is to get the limitations, within which you did take these—I take it you assumed that the volume of gas which Canadian River was estimated to have by the geological department would all be produced by Canadian River and available for sale down to the 25-pound rock pressure?

A. Well, if you want my opinion. This is my opinion on the thing.

Q. First I am asking you if that is what you did. I am trying to find exactly what you did.

A. Read the question.

(The question referred to was read by the reporter, as set forth above.)

By Mr. Dougherty:

Q. That was the assumption on which you proceeded?

A. Yes, sir, that was the assumption I made and it is my opinion that the Canadian River will, if there is any gas drainage away from the Canadian River, they will drain from other leases. That is the only thing that I can see.

Q. Well, now, are you familiar with the location of their acreage so that you know from what leases that drainage might take place to Canadian River?

A. Well, you are still getting off my line.

Q. Well, you started on the line here giving your voluntary opinion which first you said you weren't qualified to give, so I wanted to ask you the basis of it.

A. I am familiar with the location of Canadian River

Q. The gas won't drain both ways at the same time in the same strata?

A. I don't think so.

Q. No more than water will run two ways in the same pipe; so drainage takes place from the high pressure area to the low pressure areas?

A. Yes, sir. It is logical to assume that.

Q. And you know that the extreme western part of the field is the high pressure area where Canadian River's leases are located?

A. Well, I have been told that. I don't know.

Q. Well, then, your expression of opinion that what Canadian River will lose by drainage they will gain by drainage some place else was pretty much of a guess, wasn't it?

A. That's all, on my part, yes. As I say, I have made no study of that field.

Q. Of course, if drainage takes place it couldn't be true that all leases will get as much as they lose, otherwise everybody would be coming out even?

A. I couldn't say that. I don't know.

Q. Well, on the assumption that there would be drainage from Canadian River to other leases which would not be compensated for by drainage from other areas to Canadian River, would not that change your computation as to the amount of recoverable gas which is available from those leases?

A. Well, I have made no computation on the amount of gas. I have taken this figure from the geologists. I have made no computation of the amount of gas.

Q. You made a computation of the amount of gas that could be taken out of the wells and sold; that is, you have got your figures there.

A. Not for the reserves under Canadian River acreage.

Q. Your figures are production figures which you said—

A. I estimated what I thought the Colorado Interstate Gas Company—or the Canadian River Gas Company, their requirements would be, taking these things into consideration. That's all I have done. It is merely an estimate on my part.

Q. Your figures, then, that you have given, is that in a period of 56 to 62 years from 1928 Canadian River and Colo-

rado Interstate would have to have available the quantities of gas which is the total that you arrive at?

A. That is right. That is true.

Q. If they stay in business that long.

A. According to my calculations, yes, sir. As far as the life of the field goes, the supply of gas, I don't know anything about that.

Q. Well, now, any change in the character of operation or anything that takes place in the future, that would serve to revise the figure which was given as the amount of gas reserves there, that would, of course, then, have affect on your computations?

A. Yes, sir, and there are other things that would have affect on my computations—the possibility of the second Chicago line not being built would have a tendency to increase the life of that field. The Denver line deliveries take precedence over Chicago. The possible reduction in the Chicago line to take care of the Denver line would increase the life of the field. The possibility of the Chicago line taking gas from the Hugoton field would have a tendency to prolong the life of the Panhandle field and also prolong the life of Canadian River property.

Q. Well, now, when you speak of the Canadian River acreage, you are just talking about that in the Panhandle field?

A. Yes, sir.

Q. You think these possibilities are things which may not take place in the future?

A. These things I speak of are things that have been taken into consideration in determining service lives on this property.

Q. To what extent did you take into consideration the Hugoton field in determining the service lives of this pipe of—

A. If the life of the field had been the determining factor in the service lives that I set on this line it would have been taken into consideration. That's the whole thing. I think the life of the field will be longer than the service life that I have set on this property.

Q. I take it, then, that your figures of service lives here are purely service lives based on physical factors?

A. Primarily. I have written in this written statement that it is primarily based on physical life.

Q. You have neither increased the service lives nor decreased them because of any consideration of availability of gas?

A. Yes.

Q. Which did you do?

A. I decreased them.

Q. You recognize, I take it, that service life for the purpose of accruing depreciation should be less than the number of years the gas supply will be available?

A. Yes, sir, that is the reason I made these calculations.

Q. Now, you apparently, therefore, considered that anywhere from six to ten years of additional life beyond the 50 years for the main line pipe, for example, would be adequate period of time to balance off any replacements that had to be made prior to the expiration of the 50 years?

A. Yes, sir. There is some of that pipe line this I have no doubt that it would live a hundred years. Some may be less than a hundred years. Fifty years is what I have set on it as the average life.

Q. Of course, Mr. Hill, one hundred years will do no good in accruing depreciation reserves?

A. That is true.

Q. If the economic life of the property is sixty?

A. That is right. That is the reason these lives have been cut back.

Q. So I say, you recognize that it is necessary to recover the original cost by the end of sixty years if that is the economic life of the project?

A. Yes, sir.

Q. In doing that you have taken 50 years for the pipe on the assumption that such number of years as the property operates beyond that will adequately provide full depreciation reserve?

A. Yes, sir.

Q. Now, any installation of compressors, for example, which you have given—I think 36 years, haven't you?

A. Yes, sir.

Q. Any installation of compressors in the latter part of this 60 years would present a different problem of service lives for the purpose of accruing depreciation?

A. I think it would, yes, sir.

Q. That is, you recognize that limitation of field life is a very positive and determining factor in your service lives?

A. I think it is, yes, sir, although I think those compressor engines will last much longer than the composite life I have used—

Q. Well, we will know that when the 36 years is over.

When you use the phrase, then, in your text that the system was considered a continuing enterprise which will operate so long as the supply of natural gas is available, that statement refers to the answers you have just given of the life from 56 to 62 years?

A. Yes, sir.

Q. If in the future that field life basis were changed, then the service lives which you have given here might be revised either up or down depending upon what the change of conditions was, I take it?

A. I think so.

Q. Now, when you made your inspection of your pipe lines, your main pipe lines, you took down notations on pit depths and general conditions, and so on, and the other information that you relate on Page 3 of Exhibit 177. How did you translate that into your final answer of fifty years? What did you do?

A. I didn't translate that into the final answer of fifty years.

(Vol. I.I, pp. 7015-7026.)

Q. Mr. Hill, if I recall, during the course of my cross examination of you, you testified that the life of the main pipe lines and transmission lines was based upon the life of the field, or the life of the natural resources, rather than the physical life of the pipe, isn't that correct?

A. Yes, sir.

Q. That was my understanding.

A. Yes, sir.

Q. Now, you got the figure upon which you calculate the life of the field from Mr. Hammer?

A. Yes, sir.

Q. I don't recall just where that is in your written statement. Do you have it in there?

A. I think I have it in here some place, Mr. Spencer.

Q. Will you please identify it if it is there?

A. I used 3,636,000,000 Mcf., that is at 14.65.

Mr. Lange: 14.65 pounds?

The Witness: Yes, sir.

Mr. Lange: At what time?

The Witness: That was as of the end of 1939.

By Mr. Spencer:

Q. Is it in here any place? I can't find it.

A. No, it is not.

Q. You just testified to it?

A. Yes. I had this tabulation here.

Q. That's all right, and that is the same figure that appears in Mr. Hammer's exhibit number—

Mr. Lange: I think it is 180.

Mr. Spencer: 180?

The Witness: Well, I don't know. I haven't looked at Mr. Hammer's exhibit.

By Mr. Spencer:

Q. All right. The record will show. I believe you also testified that the life of Canadian River Gas Company's reserves as computed by you was based upon the assumption that Canadian River would recover all of the gas included in the figure which you obtained from Mr. Hammer.

Mr. March: I object to that question. He has not made a computation of the reserves of the Panhandle field.

Mr. Spencer: It doesn't make any difference.

Mr. March: The exhibit does not—I believe you mistook yourself there, Mr. Spencer.

The Trial Examiner: Read the question.

(The question referred to was read by the reporter as set forth above.)

Mr. March: The question is thoroughly improper. He has not made any computation of gas reserves at all.

Mr. Spencer: No, the life of the reserves.

Mr. March: He has made no computation of the life of the reserves in this exhibit at all. He hasn't had a thing to do with the life of the reserves. He is talking about the life of the pipe line.

By Mr. Spencer:

Q. Haven't you computed the life of the natural resources that are available to Canadian River Gas Company, Mr. Hill?

A. I have used these figures that have been furnished to me as far as determining service life of this property.

Q. And you went at length to show me how you computed it on different bases?

A. Yes, sir.

Q. Now, those calculations and computations which you made are based upon the assumption, then, that Canadian River Gas Company would recover every foot of gas indicated in the reserve figure that was handed to you by Mr. Hammer?

A. Yes, sir, that is the way I have used it.

Mr. Spencer: All right, that is all.

The Trial Examiner: Is that all, Mr. Spencer?

Mr. Spencer: Yes, sir.

Redirect Examination.

By Mr. Lange:

Q. In other words, you utilized the reserve figures that were given to you by Mr. Hammer?

A. Yes, sir, in determining service lives.

Q. You didn't attempt to compute any reserves yourself?

A. No, sir, I have not.

(Vol. LXIV, pp. 9258-9261.)

Further Testimony of the Company's Witness, SOLO.

Q. There is a letter addressed to one of the employees. Did you write that letter?

A. Yes, sir.

Q. Yourself?

A. I dictated it. In fact, Mr. Smith and I dictated it jointly. All we did—this exhibit was prepared, as I have testified, under our direction. When it came to the value of these fee lands we used the appraisals that the company had already secured on those lands made by real estate agents and other independent appraisers at different times near where these lands were located. In instructing them how to set up the exhibits we told them to use the appraisals they already had and that is what the letter says.

Q. I notice here at the end of that letter, Page 17 of it, there is the calculation: "Five per cent in 1947 and 1955;" then you have up here figures that refer to 1947. What is the significance of that?

A. When we originally planned to make this study the officials of the gas company asked us to make a study of the salvage value at two years instead of at one and after we started, but before we had really done very much work on the joint study, after further discussion with them we decided not to make an appraisal of the two years and finally made an appraisal as of January 1, 1956.

(Vol. XCVII, pp. 14941-14942.)

Q. Now, I notice down here in about the middle of the page on Page 4 you strike out "As of December 31, 1947."

A. Well, you see when this statement was originally prepared it was going to be a double statement showing salvage values: first, as of December 31, 1947 and then December 31, 1956. When we finally determined to make only one study, I went through the preliminary papers and changed them all to read just for the one period.

Q. Who told you to make only one study?

A. Who told me?

Q. Yes.

A. The attorneys of the Colorado Interstate Gas Company and the Canadian River Gas Company.

Q. Who? Mr. Brock?

A. Mr. Brock was one of them.

Q. Who else?

A. Well, I believe Mr. Hendee was present at that conference and possibly Mr. Dougherty.

Q. All right, I notice here on Page 5 you strike out:

"Ranging in age from 17 years." Why did you strike out 17 years?

A. For the same reason, because in 1947 material would be 17 years old and in 1956 it would be 25 years old. In dictating this statement in contemplating the double statement, we said "ranging from 17 to 25 years," but when we found it was only to be a final statement, we took the ranging out and had an absolute period and had the 25 years.

Q. In the sentence: "... no responsible organization would undertake the initiation of a new project with materials ranging in age from 17 to 25 years," you struck out "ranging in age from 17."

A. I think either statement is correct. I think it would be just as difficult for a company starting a new project to buy material 18 years old as 25 years old. It just wasn't necessary to say it under the circumstances.

(Vol. XCVII, pp. 14946-14947.)

Q. Who employed you specifically?

A. As to my employment in this case, Mr. Taubman called me about eight or ten months ago and told me that Mr. Moody, one of the officials, I believe, of one of these companies, asked him as a courtesy if we would again testify in this case as we testified in the Texoma case, and that most of the material was in a similar area; so at Mr. Taubman's request I went with him to Amarillo about last May, I believe, and at that time we met a number of attorneys and officials of the company, including Mr. Hendee, I believe, was there, and they asked us to testify in this case, and we said we would.

Q. Are you getting some of your money from Canadian River Gas Company and some of it from Colorado Interstate Gas Company, do you understand?

A. I don't know. I haven't discussed money with these people at all in any, shape, form or manner.

Q. How many days were you on the stand in the Texoma case?

A. I think I was on the stand about three-quarters of a day during the original trial and I went back then to Washington some weeks later and was on the stand for an additional thirty minutes, something like that.

Mr. March: I request that that information be furnished the record as to how much he is being paid.

Mr. Dougherty: All right.

Mr. March: You won't be on the stand quite that long this time. That's all.

The Trial Examiner: May I ask Mr. Solow a question, Mr. Dougherty?

The Witness: Yes.

The Trial Examiner: Mr. Solow, why did you fix the date of 1950 as the determination of the salvage date?

The Witness: That figure is purely an arbitrary date that was given to me by the attorneys of the company. That is the date they said they wanted this study to cover.

The Trial Examiner: I think that's all.

(Vol. XCVII, pp. 14949-14951.)

Further Testimony of the Company's Witness, W. D. SMITH.

Q. What is your understanding as to why they cut out all reference to 1947?

A. When we first went to Colorado Springs we were told to make two salvage estimates, one as of 1947 and one at a later time, being in 1955. I think it was, as shown here. Before we got very far into the work we decided to talk to Mr. Brock and see whether or not that was what he wanted. We came up to Denver and Mr. Solow and myself talked to Mr. Brock and Mr. Hendee. They fixed the dates wherein these exhibits were prepared.

Q. The original plan was to have the figures for 1947?

A. Yes, that was the way we started it.

Q. You haven't seen any of the subsequent instructions which are revisions of the first instructions?

A. Yes, I have a book here of my own with the instructions in it.

Q. This book of yours contains letters, as I notice here, prior to—it looks to me like those letters were in connection with the Texoma case. I see one here dated June 10, 1939.

A. Some were used in the Texoma case.

Q. June 17, 1939, also?

A. Yes.

Q. You testified in the Texoma case, did you not?

A. Yes.

Q. What was the period of salvage? What was the time of salvaging that property?

A. January 1, 1954 as I recall it. That is to the best of my memory.

(Vol. XCVII, pp. 14986-14987.)

28. Necessary Rate of Return.

Paul B. Coffman, a witness for the respondent, testified on rate of return (Exhibit 73, Vol. XV, p. 2103).

He graduated from the Ohio State University in 1923 with the degree of B. S., and from Harvard University Graduate School of Business Administration in 1926 with the degree of M. B. A. He is now Vice President of Standard Statistics Company, Inc.

From 1926 to 1927 he was Professor of Economics at William and Mary College, and from 1927 to 1936 Professor of Accounting and Business Policy at the Graduate School of Business Administration at Harvard University, and at the same time was Consulting Economist for a number of industrial corporations and financial advisory institutions.

During 1931 and 1932 he was Executive Vice President and General Manager of Poor's Publishing Company engaged among other things in publishing Poor's Manual.

From 1935 to 1939 he was Departmental Manager of Standard Statistics, having charge of statistical and research investigation and valuations, since which time he has been Vice President of Standard Statistics directly in charge of statistical and economic research and valuations for individuals, institutional and (p. 2104) corporate clients. In connection with his duties he has been constantly engaged in the examination and analysis of securities and corporations, with the view of determining hazards involved, and the intrinsic worth of securities, and the presentation of such findings to the many clients of Standard Statistics.

In October, 1940, his company was retained by the Colorado Interstate to make a statistical study for the years 1937, 1938 and 1939, and for the interim period of 1940, January-October, of the investors' appraisal of the risks of capital invested in the natural gas business as compared with the risks of capital invested in other utilities. His analysis covered the following utility classifications: (1) electric utility operating companies; (2) water companies; (3) manufactured and mixed gas companies, and (4) natural gas companies.

The telephone industry was excluded, because it was so largely dominated by the American Telephone and Telegraph (p. 2105) company. In most cases complete data, particularly with respect to market prices on the quoted securities of the operating subsidiaries, were not obtainable.

His method of procedure as to each group, and also as to each utility in the several groups for each of the periods 1937 to 1939 inclusive, and the interim period of 1940, January-October inclusive was:

His first step was to ascertain the total market value of all securities of each company at the end of each year by the average of its high and low market quotations in the year (p. 2106).

The second step was to determine for each company the total earnings available for distribution to the security holders, after taxes, depreciation and other miscellaneous charges, as reported by the particular company to its stockholders (p. 2107). For the years 1937, 1938 and 1939 the earnings were taken as shown in the published reports. For the interim period in 1940 the latest reported earnings, covering a twelve months' period, were used.

The third step was to divide the earnings by the indicated market value, which gave the rate for the period in question (p. 2108).

The fourth step was to make the necessary calculation to show the market value of all of the securities in the group, and likewise to show the total earnings available for distribution to the securities of all companies in the group. The latter figure was then divided by the former in order

to obtain the investors' overall appraisal of the risk of all capital in the group (p. 2109).

As to electric utility operating companies, he first listed all such companies upon which Standard Statistics currently publishes data in Standard Earnings Bulletin. The list included fourteen companies, which were the more important operating utility companies in which there was any investment interest. From this list there were excluded all corporations whose operations were not predominantly in the electric field. The resulting list included the following companies:

Boston Edison Company.

Commonwealth Edison Company.

Consolidated Edison Company of New York.

Consolidated Gas Electric Light & Power Company of Baltimore (p. 2111)

Detroit Edison Company.

Pacific Gas & Electric Company.

Southern California Edison Company, Ltd. (p. 2112)

He took the list of all operating companies engaged solely in the water business which he could find from Standard Corporation Records. From this list certain companies were eliminated for the following reasons:

1. Companies whose common stocks were held by one of the larger holding companies, and which had no obtainable market evaluation.

2. Companies whose stocks were closely held by relatively few individuals and had no available market evaluation.

3. Companies whose 1939 gross operating revenues were (p. 2113) less than \$500,000.

The following companies remained on the list:

Bridgeport Hydraulic Company

Elizabethtown Water Company Cons.

Hackensack Water Company

Middlesex Water Company

New Haven Water Company

Plainfield-Union Water Company

Stanford Water Company (p. 2114)

As to manufactured and mixed gas companies, a list was prepared of all operating companies distributing manufactured or mixed gas, and listed in Standard Corporation Records. From this list certain companies were eliminated for the following reasons:

1. Companies which did not have stocks outstanding in the hands of the public and for which there was no market evaluation.

2. Companies whose gross revenue was predominantly obtained from services other than distribution of manufactured and/or mixed gas.

3. Companies which were in receivership at the end of 1939.

4. Companies with gross revenues in 1939 of less than \$1,000,000.

With these eliminations the following companies remained:

Bridgeport Gas Light Company

Brooklyn Union Gas Company

Elizabethtown Consolidated Gas Company

Hartford Gas Company

Laclede Gas Light

Peoples Gas Light & Coke Company (p. 2116)

Providence Gas Company

Seattle Gas Company

Springfield Gas Light Company

Washington Gas Light Company (p. 2117)

With reference to natural gas companies a list was prepared of all operating and holding companies engaged in

any phase of the natural gas business. From this list he eliminated:

1. Companies which had no stocks outstanding in the hands of the public.
2. Companies which were not exclusively engaged in the natural gas business.
3. Companies in receivership at the end of 1939.

After such eliminations the following companies remained:

Duquesne Natural Gas Company
 El Paso Natural Gas Company
 Houston Natural Gas Corporation
 Interstate Natural Gas Company
 Lone Star Gas Corporation (p. 2118)
 Memphis Natural Gas Company
 Mountain Fuel Supply Company
 National Fuel Gas Company
 Northern Oklahoma Gas Company
 Northern Utilities Company
 Oklahoma Natural Gas Company
 Pacific Lighting Corporation
 Southern Natural Gas Company (p. 2119)

Included in the above group of natural gas companies was the Pacific Lighting Corporation. This company through subsidiaries distributes natural gas to 272 cities and towns in California, including Los Angeles. Its subsidiaries serve about half the population of the state. Market prices of the securities of the operating companies are not available, in view of which this holding company was treated as a single operating company in the above group. As a result, its indicated market value is nearly 40% of that of the entire group of natural gas companies, thus giving entirely too much weight in this group to a purely distributing company. This company owns no gas producing facilities, and does not run any of the risks of producing and trans-

portation (p. 2120). For these reasons the risks of capital employed in this company more nearly approximate those of strictly distributing companies serving manufactured or mixed gas.

The comparison as worked out under the formula above described is as follows:

Comparison of Investors' Appraisal of Risks of Capital in Pacific Lighting Corporation as Compared with the Manufactured and Mixed Gas Companies Group.

	Per Cent 1937	Per Cent 1938	Per Cent 1939	Per Cent Three Yr. Average	Per Cent Jan.-Oct. 1940
Pacific Lighting Corporation	7.20	7.35	6.26	6.94	5.42
Manufactured and Mixed Gas Companies Group	6.22	6.52	6.56	6.43	6.98

In the following table all figures for the Pacific Lighting Corporation are eliminated, and with this elimination the figures for the twelve natural gas companies remaining in the groups are as follows: (p. 2121)

Determination of the Investors' Appraisal of the Risks of Capital for Natural Gas Companies (Excluding Pacific Lighting Corporation).

	1937	1938	1939	Jan.-Oct. 1940
Total Indicated Market Value of Capital	\$294,414,969	\$263,667,801	\$275,217,638	\$278,359,660
Total Earnings Avail- able for Indicated Capital	24,488,305	21,213,539	22,902,944	25,529,032
Investors' Appraisal of Risks of Capital	8.32%	8.05%	8.32%	9.17% (p. 2122.)

The summary in percentage, including Pacific Lighting Corporation and excluding that company, is shown in the following table for the years 1937 to 1939 inclusive, and the interim period of 1940:

**Investors' Appraisal of Capital Risk in Various
Divisions of the Utility Business.**

	Per Cent 1937	Per Cent 1938	Per Cent 1939	Per Cent Three Yr. Average	Per Cent Jan.-Oct. 1940
Electricity Utility Operating Companies	5.47	5.50	5.41	5.46	5.42
Water Companies	5.52	5.39	5.66	5.52	5.17
Manufactured and Mixed Gas Companies	6.22	6.52	6.56	6.43	6.98
All Natural Gas Companies	7.91	7.79	7.53	7.74	7.77
All Natural Gas Companies Excluding Pacific Lighting Corporation	8.32	8.05	8.32	8.23	9.17 (p. 2124)

William Chase Gilman, a witness for respondent, testified on rate of return (Exhibit 74, Vol. XVI, p. 2256).

He graduated from the Massachusetts Institute of Technology with degree of Bachelor of Science in 1922 and received the degree of Master of Science in Electrical Engineering in 1923. He is a professional engineer in the State of New York.

From 1923 to 1925 he was engineer for the General Electric Company; from 1925 to 1927, Manager-Lighting Division, Commercial Department, Central Hudson Gas and Electric Corporation; 1928, Engineer Carolina Power and Light Company; 1928 to 1935, Engineer in the Treasurer's office of the Equitable Life Assurance Society; 1935 to 1937, Director of Public Utilities Division Securities and Exchange Commission; 1937 to date, partner in Gilman & Hickey, Financial Consultants, New York (p. 2258).

During the seven years he was with the Equitable, it was his duty and responsibility to recommend to the Treasurer for purchase by the Society of public utility and industrial securities. The Equitable is among the very large insurance companies of the country and purchases many millions of dollars of such securities each year. In this connection he visited the properties and investigated the operations and analyzed the securities of a large majority of the electric and gas companies of importance having securities out-

standing in the hands of the public. As a part of such analysis the question of rate of return was involved.

During this seven year period the investment of the Society in securities in the field for which he was responsible, increased from approximately \$110,000,000 to \$262,000,000.

During the early period of that employment the Equitable made no purchases of natural gas pipe line securities. During the latter part of the period he began making studies of the industry; and in (p. 2259) 1935 the Equitable purchased \$4,000,000 of an issue of \$16,000,000 bonds of the Northern Natural Gas Company. The remainder of the issue was sold to other large insurance companies, and this was the first large purchase of bonds of a natural gas pipe line company by institutional buyers, except for two relatively small blocks of bonds of subsidiaries of Columbia Gas and Electric Corporation bought a year previously by the Metropolitan and the Mutual Life Insurance Companies.

In 1935 he resigned from the Equitable to join the staff of the Securities and Exchange Commission in Washington, and took part in the organization of the Public Utilities Division. Shortly thereafter he became the first Director of that Division. In that position he was responsible for the administration of the Holding Company Act (p. 2260). The staff had the responsibility under his direction to analyze the various applications filed by registered holding companies and their subsidiaries with reference to issuance of securities, and to prepare recommendations to the Commission.

During the past three years his firm has been engaged in work of a financial consultation nature, chiefly in the utility field (p. 2261). Their clients consist of financial institutions, investment trusts, underwriting houses, legal firms, and utility operating and holding companies. His firm had experience in appraising stock of dissenting stockholders in a statutory consolidation, and in making special investigations and reports for insurance companies, and in making studies and giving testimony as to the value of utility property (p. 2262).

He had inspected properties of the Colorado Interstate and had discussed certain phases of its business and opera-

tion with company officials. From his previous work with the Equitable he has for a number of years been familiar with the business and operations of the Public Service Company. He had examined the statements and all financial data of the Colorado Interstate through the full year 1939 (p. 2263) and has examined copies of exhibits already introduced in this case (p. 2264).

No single standard can be set up as to what constitutes a fair rate of return. The facts in each case, the currently prevailing conditions, the degree of risk, the current cost of money and similar factors must be considered. The return should be sufficient to maintain the credit of the utility and to attract capital, and should be equal to that generally being made at the same time in the same region on investments in other enterprises which have corresponding risks. Consideration should be given also to the financial history of the utility and its historical cost of capital.

He considered the language of the Supreme Court in the Bluefield Case as a good guide of what constitutes a fair rate of return (p. 2265).

Investors will invest in a regulated industry only when they feel that there is a combination of return and safety which is at least as high as they can obtain in other fields. Public utilities and other regulated enterprises are in competition for the investor's dollars against all other businesses (p. 2266).

After describing the property, operations and business of Colorado Interstate (pp. 2268-69), he stated that this company is entirely unlike the ordinary public utility company, such as a water, electric or telephone company, as they are relatively permanent in character, and have no problem comparable to that involved in the natural gas industry, namely, that they may find themselves suddenly without the supply of their product.

Neither are manufactured gas companies comparable to any extent that is helpful. They, too, are able to continue the manufacture of gas over an indefinite period, and are not dependent upon a wasting natural resource (p. 2270).

There is an important distinction between a natural gas

company having a completely integrated business and a natural gas pipe line company. A natural gas company having an integrated business, that is, one which owns or controls the distribution in addition to production and transmission, generally speaking, is a less risky enterprise than the pipe line company which owns only production and transmission facilities and sells its gas at wholesale to distributors who control the market.

He was unable to find other business or companies having securities outstanding in the hands of the public which have risks and uncertainties precisely corresponding to Colorado Interstate. The business of companies affording the closest comparison to risks and uncertainties are other natural gas pipe line companies (p. 2271).

Since the Bluefield decision, the public utility industry has grown much larger, and has become too large to be financed almost wholly with local capital. Accordingly, securities of the large public utilities and industrials have been sold throughout every state in the United States. In addition, improved methods of transmission and dissemination of information, and the largely increased amount of data generally available to investors, has made it easy for investors in every part of the country to have up-to-date information. For these reasons, any business needing a substantial amount of capital will usually secure it in a national money (p. 2272) market, or at least is not limited to the locality in which it operates.

In Appendix 1 to Exhibit 74, there is shown a list of natural gas companies which are engaged in the purchase or production, or both, transmission and sale of natural gas, which have annual gross operating revenue of \$2,000,000 or more, and which have common stock outstanding in the hands of the public. Natural gas companies owning large amounts of distribution facilities have not been included in the list for the reason that such companies are less directly comparable. The five companies listed in the Appendix are comparable to Colorado Interstate to some extent, in that they all (1) purchase or produce natural gas in producing areas; (2) transmit it a substantial distance by means of large pipe lines; (3) sell gas to industrial customers or to distributing companies for resale (p. 2273).

These five companies are:

El Paso Natural Gas Company

Interstate Natural Gas Company

Memphis Natural Gas Company

Panhandle Eastern Pipe Line Company

Southern Natural Gas Company

and statistics are given with respect to each of these companies.

Since 1935 there has been sold to the general public and to institutional investors, publicly and through private sales, substantial amounts of first mortgage bonds of companies engaged in the natural gas pipe line business. Generally speaking, the size of the mortgage bond issue has been modest in proportion to the property account and the maturities have not been in excess of fifteen years, with heavy sinking funds provided, sufficient to amortize the total bond issue over its life. In practically all cases the life of the supply has been estimated by independent geologists to be longer than the maximum maturity of the bonds.

In recent years there have been no substantial sales of preferred stock of natural gas pipe line companies, and in his opinion such security is not suited to natural gas pipe line companies. There have been no substantial sales to the public of (p. 2274) common stocks of natural gas pipe line companies in recent years (p. 2275).

From the statistics shown in Appendix 1 he pointed out that the earnings price ratios for those companies range from 6.75% to 18.75%, indicating the investors' appraisal of the common stock of natural gas pipe line companies (p. 2276).

The future of the company is somewhat uncertain. Its contracts with its largest customer, Public Service Company of Colorado, and subsidiaries, from which it derives approximately 48% of its revenues from gas sales, expire in 1948 and 1949 (p. 2277).

Under today's conditions a company such as Colorado Interstate could normally be most economically financed

through the issue and sale of bonds to the extent of 50% of the amount of capital required and the balance of 50% through the issue and sale of common stock. With the existing uncertainty as to the renewal of the contracts expiring in 1948, the maturity of the bonds would of necessity be prior to 1948.

Colorado Interstate's bonds outstanding bear interest at 2 3/4% and mature December 1, 1945. The cost of bond money to the company, including the expenses of issue, would be approximately 3%.

From his knowledge of investor requirements and his study of the market's appraisal of other natural gas pipeline companies' securities, it was his opinion that the common stock equity money could be obtained from investors on approximately an 11% to 12% basis. Taking into consideration the expenses of issuance, the (p. 2278) cost to the company of the equity portion would be at least a 13% basis.

On the basis of a capitalization of 50% bonds at 3%, and 50% common at 13%, the resulting cost of money would be 8%, and accordingly it was his opinion that the rate of return on the fair value of the property necessary to attract investors to put up the necessary funds is 8% (p. 2279).

Herbert S. Sands, a witness for the respondent, testified on rate of return (Exhibit 92, Vol. XIX, p. 2653).

He is a graduate of the University of Colorado, with a degree of Electrical Engineer. He entered the student course of the Edison General Electric Company at Schenectady, New York, in 1889, and completed the course in 1893. He became erecting engineer for the company, and later superintendent of construction, 1894 to 1898.

He was construction engineer and superintendent of the Colorado Springs and Cripple Creek District Railway (p. 2653), 1898 to 1899.

Was superintendent of construction and later superintendent of operation of the La Bella Water and Power Company at Goldfield, Colorado, 1899 to 1901.

He was construction engineer and Superintendent of the Seaton Mountain Light, Heat and Power Company at Idaho Springs, Colorado, 1901 to 1905.

Later he was manager of the industrial division of the intermountain territory of the Westinghouse Electric and Manufacturing Company, in connection with which he had charge of industrial engineering, which involved consulting on most of the large industrial developments of the intermountain region (p. 2654).

Has been an independent consulting engineer since 1927, involving rate analysis and design of electric rates for the Home Gas and Electric Company at Greeley, Colorado; Glenwood Springs, Colorado; municipal plant at Oak Creek, Colorado; Arvada Electric (p. 2655) Company, Arvada, Colorado; Colorado Central Power Company at Englewood, Colorado; gas rates for the Cheyenne Light, Heat and Power Company, electric rates at Fort Collins, and gas, electric and water rates for the City of Denver.

He has been engaged in the inventory and appraisal of utilities and industrial plants, including the Public Service Company of Colorado, Glenwood Light and Water Company, Colorado Central Power Company, Colorado Utilities Corporation, Home Gas and Electric Company, Arvada Electric Company, Mountain Utilities Corporation (p. 1656), Western Public Service Company, Central Power Company, Redlands Irrigation and Power Company.

He has also been engineering advisor to the legal staff of the Nebraska Power Company, Western Public Service Company, Nebraska-Iowa Power Company, Central Power Company, and Northwestern Public Service Company.

He has acted as officer of the Federal District Court in the appraisal of the property of the Colorado Fuel and Iron Corporation in reorganization.

He has made an appraisal of the Colorado & Wyoming Railway, and has been consulting electrical engineer for the four upper basin states of the Colorado River, and engineering advisor for the seven railroads in Colorado.

He has been chairman of the State Board of Engineer Examiners of Colorado.

He is registered as an Electrical Engineer in the state of Colorado.

He is a member of the American Institute of Electrical Engineers, and was Vice President 1923-24 (p. 2658).

In considering the rate of return for Colorado Interstate he gave consideration to the territory to be served, describing in some detail the property of Colorado Interstate, the principal cities and their growth of population, and the industries, showing that the entire area is progressing and developing, and that the load is diversified (pp. 2659-62).

He considered the fact that the natural gas industry is an extractive industry, and that the supply is continually being depleted, and that the integrity of the investment is entirely dependent upon the estimate of geologists. He took into consideration the fact that an adequate supply of gas had been available for twelve years, and from all indications the supply is still adequate (p. 2663). He considered the fact that in addition to Canadian River there were five additional gas companies taking gas from the Amarillo Field in considerable quantities, and there is a possible hazard of other companies adding to the depletion of the field (p. 2664).

He considered the fact that regulation necessitates changes in methods and is attended by expense of hearings, and in the case of increased operating expenses and decreasing earnings the company can resort to the Commission for adjustment. Nevertheless, there is always a lag between the ascending price of commodities, labor and taxes, and the relief afforded.

He considered the fact that 21% of the total gas sold is sold under contracts expiring in 1943, 49% in 1946, and 28% in 1948; also, that increased demands on the pipe line will increase the operating expenses of the compressor stations. Taxes have increased from 1.38 cents per Mcf. in 1930 to 2.10 cents in 1939 (p. 2666).

The Colorado Interstate has no control over the market which is served through resale companies, and must rely on the vigilance and aggressiveness of the respective purchasers for resale.

He also took into consideration competition in the matter of supply, the risk of other gas fields being discovered closer

to Denver, and the possibility of bringing gas from the Hugoton field in Kansas; and also the competition of other fuels (p. 2667).

He considered also the pipe line hazards due to outages resulting from various causes, which he described in considerable detail (pp. 2668-71).

He considered the fact that the management was of the highest order (p. 2672).

His final conclusion, taking all of these matters into consideration, was, that 8½% would be a fair return (p. 2673).

Arthur H. Bosworth, a witness for the respondent, testified on rate of return (Exhibit 93, Vol. XX, p. 2766).

He graduated from Yale in 1908 in mechanical engineering, and entered the employ of William E. Sweet & Company, investment dealers in Denver. For the first three years his duties were primarily in purchasing, and in that connection he traveled throughout the states of Colorado, Wyoming, Idaho, Montana, Utah, New Mexico and Arizona.

In 1914, the firm of Sweet, Causey, Foster & Company (p. 2766) was merged with another local investment house under the name of Sweet Causey, Foster & Company, and he became Vice President.

At the end of 1916 he founded the present firm of Bosworth, Chanute, Loughbridge & Company.

He is a Director, Vice President and member of the Executive Committee of The Denver Union Stock Yard Company, a Director of Daniels & Fisher Stores Company and The Denver Fire Clay Company (p. 2767), and Chairman of the Board of North Oklahoma Gas Company (p. 2767).

He was formerly a Director of the First National Bank of Denver, prior to the passage of the Federal law prohibiting an investment banker from being a director in a National Bank.

His own firm specializes in handling municipal bonds and local securities, and participates either as underwriters or selling group members in a great many national issues (p. 2768). His firm has been interested in natural gas securi-

ties for a number of years. In 1935 they, with associates, organized the Northern Oklahoma Gas Company, serving Ponca City and nearby points. In 1936 his firm was a member of the purchasing group which acquired the capital stock of the Oklahoma Natural Gas Company, and have distributed to their customers the bonds, convertible preferred stock and common stock of that company, and have dealt in the bonds and common stock of El Paso Natural Gas Company, the Mountain Fuel Supply Company and the Lone Star Gas Company common stock, and distributed a block of stock of the Interstate Natural Gas Company.

In 1930, and again in 1935, he testified as a witness on rate of return for the Denver Union Stock Yard Company (p. 2769).

In his study of the subject of rate of return he secured statistics and information from the company and examined reports of the Public Service Company at the office of the Colorado Public Utilities Commission, and talked with officials of the company. He gave consideration to the specific customers of the company, which he listed (p. 2770), and considered the possibility of competition by the discovery of gas fields much closer to the consuming markets, and he also considered the franchise situation in Colorado and the attitude of investors toward natural gas securities (p. 2771).

Electric companies, manufactured gas companies and water companies expect to remain in business almost in perpetuity. The life of a natural gas utility depends upon the life of the supply, which is the greatest hazard any natural gas pipe line company has. It is an extractive industry, comparable to an oil industry or mining industry (p. 2772). A gas company has to sell its heating units, and these same heating units can be obtained from electricity, coal or oil. That is one reason why the investor does not consider the gas industry as safe as other classes of utilities mentioned. A natural gas company usually sells a substantial part of its output to industrial consumers, and fluctuations in business affect the earnings of a natural gas company to a greater extent than is experienced by other public utilities. Therefore, the investor, at the same rate of interest, would prefer to invest in the securities of other public utilities.

Evidence that the investor believes that the securities of natural gas companies have more inherent risk than those of other public utilities is found in the fact that certain states having laws regulating the investments of savings banks discriminate to some extent against natural gas issues (p. 2773), including Connecticut, Pennsylvania, Maine and Massachusetts.

Then follows a somewhat detailed description of the company and its business (pp. 2774-76), showing generally the growth of the business.

He then referred to a rule announced in the Bluefield Case (p. 2777).

He thought it a fact that investments in this part of the country usually carry a somewhat higher return than is the case in the East or Middle West.

Since it is impossible to find other businesses which have the same risks as this company, he thought the investors' appraisal of what the rate of return should be, should be considered (p. 2778).

He listed in Schedule 1 a brief description of nine natural gas companies whose securities have a fairly active market. They are:

- El Paso Natural Gas Company
- Interstate Natural Gas Company
- Lone Star Gas Company
- Memphis Natural Gas Company
- Mountain Fuel Supply Company
- National Fuel Gas Company
- Oklahoma Natural Gas Company
- Panhandle Eastern Pipe Line Company
- Southern Natural Gas Company

In each case the capitalization of the companies is shown, the recent earnings per share of common stock, and market quotations. The dividends per share paid during the past year were shown, and the percentage of earnings per share

to the market price, and a brief description of the business of each company.

It is significant that if the percentage of earnings per share on the market price of the stock is taken in each case and averaged, the resulting figure is 12.21%, from which it appears that the investor expects to buy natural gas common stock on a liberal earning basis.

He said that the rate of return should be a single rate applicable to the value of the (p. 2779) entire property, leaving the disposition of the income derived to the judgment and convenience of its owners.

He then showed the earnings price ratios of a number of speculative or highly profitable ventures, mostly mining companies, as ranging from 13.3% to as high as 341.2% (pp. 2781-83).

He next referred to earnings price ratios of stocks in the so-called Standard Oil group, ranging from 9.12% to 14.66%.

He next listed a number of other oil companies showing earnings price ratios of stock ranging from 8.15% to as high as 20.67% (pp. 2784-85).

He then listed a number of speculative stocks also showing earning price ratios ranging from 10.30% to as high as 30.28% (pp. 2786-87).

He then gave his opinion, based upon a consideration of all of the factors touched upon, that a reasonable rate of return for the Colorado Interstate is 8% (p. 2888).

Charles W. Knapp, Jr., a witness for the Commission, testified on rate of return (Exhibits 225 and 225-A, Vol. LXXIV, p. 10799).

He is a principal Examiner of Accounts for the Federal Power Commission, and is employed by the Division of Finance and Statistics (p. 10794).

He graduated from the University of Vermont in 1931 with the degree of Bachelor of Arts. Following his graduation he studied accounting and became a certified public accountant in 1934 in the state of New York. He had previously, prior to 1931, held various positions as bookkeeper and junior accountant.

In the fall of 1935 he was employed as an accounting expert by the Federal Communications Commission in its investigation of the American Telephone and Telegraph Company (p. 10796), and while with the Commission made an analysis of the principles and methods of consolidation employed in preparation of the published financial statements of the Bell System, and also prepared historical analyses and reports on investments of the A. T. and T. Company and its operating subsidiaries, and collaborated in the preparation of the financial history of the Western Electric Company.

In June, 1937, he was again employed by an accounting firm, and was in charge of the annual audit of the United Aircraft Corporation.

In April, 1938, he resigned to engage in private business as a public accountant, and in December of that year accepted his present position with the Commission (p. 10797). He has been engaged in studies and in the preparation of exhibits on the subject of rate of return, and has testified as a witness for the Commission on this subject in five rate proceedings, all electric companies except Natural Gas Pipe Line Company of America and New York State Natural Gas Corporation (p. 10798).

His written statement, beginning on page 10800, explanatory of the exhibits, is quite lengthy, as the exhibits themselves are very lengthy.

He testified that after the completion of these exhibits he learned of the refunding operations of the Panhandle Eastern Pipeline Company during the month of January, 1941. There was a public offering through an underwriting group of \$12,000,000 principal amount of 3% Series B first mortgage bonds. These bonds carried only A rating, and were offered to the public at 102% of principal amount to yield 2.87% to purchasers (Vol. LXXXIII, p. 12301).

In conjunction with the public offering of Series B bonds, the company sold privately \$6,250,000 principal amount of Series A bonds to four banks and insurance companies. Series A bonds mature serially in equal annual installments on November 1, 1946 to 1950 inclusive, with interest rates ranging from 1.65% to 2.30%, according to maturity.

At the same time the company arranged for the private sale of \$5,000,000 face amount of Series notes due in four equal installments on November 1, 1942 to 1945 inclusive, with interest rates ranging from 75% to 1.50% according to maturity.

It was reported that the proceeds of the three issues were to be applied to the reduction of the company's outstanding first mortgage bonds in the amount of \$22,500,000. These were 4% bonds due March 1, 1952 (p. 12302).

The cost to the company on the first bond issue was 3.07% (p. 12303).

The first case he testified in was the Safe Harbor Case, in which he used the same general headings as in this case, and the treatment in Part 1 of Exhibit 225 was generally the same as in this case. The same is true of the other electric cases in which he testified (p. 12306).

In the two natural gas cases the material was generally the same as in this case.

Part 1 of Exhibit 225 he would use in any case, whether electric or gas, before the Federal Power Commission. It consists of what may be said to be background material (p. 12307).

In presenting his studies he did not express an opinion as to what the rate of return should be. He was not instructed to recommend a specific rate of return, but merely to prepare a study which contains the facts and factors which should be considered, and in that work he had a free hand (p. 12308). The principles governing the assembly of information are essentially those laid down in the Bluefield Case (p. 12309).

The purpose of Exhibit 225 was to give a general picture of what the money market is, and what investment opportunities are generally.

Chart 1 and supporting Schedule 1 was derived from Moody's Investors Service (p. 12310). The bonds in that schedule are given a rating of Aaa.

There is no company that is engaged solely in the gas business, either manufactured or mixed. The same is true of the bonds with AA rating (p. 12311), and on the succeeding page

bonds rated as Baa, except for Peoples Gas, Light and Coke Company, a company that distributes mixed gas in Chicago, and which is one of the largest distributing companies in the country.

Moody's, in selecting for their investors service these groups of bonds of the four ratings, only included the one company that receives its revenues only from the sale of gas, and that happens to be the lowest rating of these groups (p. 42312).

• The electric industry is the only industry which in rate of growth and future prospect and national importance is in any way comparable to the natural gas industry. He gave consideration to the fact that the natural gas industry is based upon extracting a diminishing asset or an exhaustible asset, and that the electric company does not have that limitation. Notwithstanding the difference, he thought there was a better comparison than with the gas company that buys its gas from one of the pipe line companies (p. 12314).

The only way a company like the Colorado Interstate can grow is for the gas distributing companies to grow (p. 12315).

The growth of Colorado Interstate's business is largely dependent on what the Public Service Company of Colorado does with its gas distribution business, rather than what it does with its electric distributing business (p. 12316).

Chart 1 was not put out for the purpose of indicating it has any direct bearing on what the rate of (p. 12317) return should be.

The yields on Treasury bonds, the same as short term commercial paper, have no direct bearing on what the rate of return shall be (p. 12318).

In Chart 4 is shown the bonds of forty public utilities, and here again the only company that is exclusively in the gas business is the Peoples Gas, Light and Coke Company. The purpose of the Chart is to show the trend of interest on bonds of that character (p. 12321).

Chart 5 shows yields on forty utilities, forty industrials and forty railroads. He was not putting this chart and the schedules in to indicate that these companies or all of them

have the same corresponding risks and uncertainties as Colorado Interstate, but he gives investment opportunities on that type of bonds and shows the trend of interest rates and the investors appraisal of the yield (p. 12322).

The list of companies in Schedule 7 and 7-A relate to yields on outstanding preferred stocks of electric operating utilities, and these were selected by him on the basis of preferred dividends being earned one and one-half times in 1938, and for which market quotations in each year could be obtained during the period 1929 to 1939 (p. 12325).

The common stock shown in Schedule A relates to a different group of companies. They are the ones that had common stock outstanding, with respect to which he could get information (p. 12326).

In terms of an unweighted arithmetic average, the earnings price ratio for the group of fourteen common stocks was 4.06% in 1929, and increased in the three succeeding years to 4.59% in 1930, 5.95% in 1931 and 7.74% in 1932. This abated somewhat from 1933 to 1939, ranging from 7.02% in 1933, 7.57% in 1934, 7.32% in 1935, 5.89% in 1936, and advancing again in 1937 and 1938 to 6.77% and 7.42% respectively, and in 1939 declined again to 7.04% (p. 12328).

The yields which investors have demanded on common stock have not been parallel with the yields which they demand on bonds (p. 12329).

In his chart on Schedule 8, the purpose of showing the average was not to indicate that the average had significance as representing the best investment situation, but merely to disclose the trend for common stocks for which earnings price ratios were available (p. 12331). If he were going to finance any electric utility he would have to take into consideration what the demands of the investors were for yields on common stock, and there are a lot of new issues where the yields run 8% and more in the last few years (p. 12332).

He did not contend that you can consider a rate of return without considering cost of equity capital. He thought the only investment consideration that should be considered

with respect to Colorado Interstate is the best investment situation (p. 12333).

• As shown on Schedule 6, the weighted average of bond yields of public utility companies, and as shown on Schedule 8, the average yield for common stocks for the years indicated, are as follows:

For 1929, bonds 5.37; stocks 4.06; total 9.43;

For 1930, bonds 5.11; stocks 4.59; total 9.70;

For 1931, bonds 4.65; stocks 5.95; total 10.60;

For 1932, bonds 5.66; stocks 7.74; total 13.40;

For 1933, bonds 4.95; stocks 7.02; total 11.97;

For 1934, bonds 4.81; stocks 7.57; total 12.38;

For 1935, bonds 3.92; stocks 7.32; total 11.24;

For 1936, bonds 3.56; stocks 5.89; total 9.45;

For 1937, bonds 3.56; stocks 6.77; total 10.33;

For 1938, bonds 3.49; stocks 7.42; total 10.91;

For 1939, bonds 3.45; stocks 7.04; total 10.49.

(pp. 12336-37)

Schedules 9, 10 and 10-A do not list companies that are engaged solely in the gas business (p. 12341). The same is true of Schedules 10-B, 11 and 11-A.

That portion of this exhibit relating to economic conditions was merely background material (p. 12344).

Exhibit 225-A shows a considerable increase in customers of natural gas companies from 1929 to 1939 (p. 12362).

About 1926 was when the first long distance pipe line was constructed (p. 12363).

In the next exhibit, Schedule No. 2 shows the dollars reflecting the additional sales which these pipe lines have made to industrial customers and new groups where no gas had been distributed before.

Q. So we have during that last decade a condition in the natural gas industry of growth that was based

on different facts than growth that might have taken place in the electric industry in that same period?

"A. Well, I don't know just what—

"Q. I mean this: In 1930 practically all of the communities (consumers) that resided in the United States did have electric service and the growth that took place in that period would be increased consumption by the people who lived there or by the industries there rather than the installation of electric service in the areas where there had been no such previous service?

"A. Well, except for the increase in rural sales, that might be so.

"Q. But there is a different situation of natural gas where large cities such as Denver, Detroit and others that (p. 12364) formerly had distributed manufactured gas, then changed over to natural gas, and that would bring a large group of customers in in a short period of time for the total number of customers being served with natural gas?

"A. That is right."

With respect to Chart 3 in Exhibit 225-A he did not include in the curve any industrial sales (p. 12365).

"Q. It is the change over to natural gas that increases the volume. On that same chart you show transported in interstate commerce three times as much gas in 1939 as in 1926, do you not?

"A. That is correct.

"Q. That indicates long distance transportation?

"A. That is right.

"Q. And again you go from 23 states where gas was consumed in 1926 to 35 states in 1939. That again indicates, does it not, a tremendous area where natural gas was never served before and is now being served?

"A. That is correct." (p. 12369).

Starting with 1937, the average approximate yields to maturity of the bonds issues shown in Schedule No. 5-A are as follows:

For 1937, 4% (p. 12370).

For 1938, 5.26%.

For 1939, 4.81%;

For 1940, 4.89%;

For the four years the arithmetic average is 5.05%.

44n Schedule No. 6, relating to bonds of natural gas companies sold during the period January 1, 1935, to October 15, 1940, the prices at the time of issuance as distinguished from the market prices shown on Schedule 5-A, average 3.57%. That is the weighted average (p. 12371). The arithmetic average is 4.34%.

Taking the issues, the cost to the company or the difference between the per cent cost to the company and the per cent yield to the purchaser is on the average, about .31 (p. 12372).

With respect to Schedule 5-F, the average of the earnings price ratio of the common stock issues is:

For 1937, 13.44%;

For 1938, 12.69%;

For 1939, 12.59%;

For 1940, 13.74% (p. 12374)

The average for the four year period being 13.12%.

Further Testimony of the Company's WITNESS, PAUL B. COFFMAN.

Q. You don't know about the bond issue recently, re-funding issue of the Public Service of Colorado?

A. No, I don't.

Q. It didn't occur to you that you should check into that company?

A. As I say, I confined my attention solely in this study to those companies upon which we reported and upon which we could find market quotations.

Q. Let's take the next one, the Northern Oklahoma Gas Company. Before you go there, I'll ask you this: Did you know that when you started to making this study, did you take into consideration at all the capital structure of the Canadian River and Colorado Interstate Gas Companies?

A. No. There again I did not see that that had anything to do with this study. I was making an objective study of the investors' appraisal of the risks of capital. I wasn't studying the particular company.

(Vol. XV, p. 2163.)

Q. All right, now, take this Southern California Edison Company, Ltd., and give us what your bond rating of that company is.

A. Well, the capitalization of the Southern California Edison Company, Ltd., as refunding mortgage bonds, series of 3-3/4, due May 1, 1967, \$3,000,000 outstanding, rating A-1.

Q. A-1?

A. A-1.

Q. That's about the highest, isn't it?

A. A-1 plus is the highest. A-1 is next. That's very high rating.

(Continuing) Series B, 3-3/4, due July 1, 1960, 35,000,000 outstanding, also rated A-1, and there is a series of 3-1/2's due September 1, 1964, 30,000,000, also A-1.

There is Pacific Light & Power Company first mortgage 5's, due July 1, 1942, 4,134,000 outstanding, and that's A-1 plus.

Q. That's about A-1 plus. Now, just exactly what is that?

A. That is our highest rating. In other words, all bonds in the rating class of A, A-1, or A-1 plus, are considered sound investment bonds and the A-1 and the 1-plus, merely indicate the degree of additional coverage or what we call security principal and interest behind the bond.

Q. Let's see, now, let's take this Consolidated Electric Light & Power of Baltimore here—by the way, I'll ask you this: Do you know what sort of business that company is engaged in—Consolidated Electric Light & Power Company of Baltimore?

A. Yes, supplying gas to Baltimore and vicinity.

Q. That is a holding company, isn't it?

A. Well, according to the definition I have already given, it is predominately an operating company because

it is in the service itself rendering the gas service to the community. Actually it supplies electricity and gas without competition to the City of Baltimore and surrounding territory, wholly within Maryland, under franchise unlimited except as to a minor amount of gas business. It also furnishes steam to the central business district of Baltimore.

Q. You are familiar with this Pennsylvania Water and Power Company, aren't you?

A. Well, that company together with the Pennsylvania Power and Safe Harbor Power and Potomac, has a contract with the Pennsylvania Railroad. I am aware of those things, under which power is to be supplied.

Q. You don't know whether the consolidated is holding stock in those two named companies, or not—Pennsylvania Company or the Safe Harbor?

A. Well, let's see. The company owns the entire capital stock of the Maryland Counties Gas Company, and a two-thirds stock interest in the Safe Harbor Water and Power, and the remaining stock interest being held by the Pennsylvania Water and Power Company.

The company also owns 25,300 shares of six per cent outstanding common stock of the Pennsylvania Water and Power Company.

Q. What is the rating for the bonds there?

A. Well, the ratings of the bonds in the Consolidated Electric Light, Gas & Power Company of Baltimore in the first refunding mortgage sinking fund bonds, Series M, 3-1's due July 1, 1965, 6,466,000 outstanding. It's A-1 plus. As a matter of fact, all of the series under that first refunding mortgage are A-1 plus. There is Series M, N, O, and P, and I know it has assumed certain obligations of Consolidated Gas Company of Baltimore.

City generals, mortgage, 4-1's, due April 1, 1954, 6,100,000, those are A-1 plus. In other words, all the bonds outstanding are A-1 plus.

Q. How did it so accidentally happen that when you came to electric utilities you pick out A-1 pluses and when you came to gas utilities you just had one A in the group?

A. Well, that statement, of course, is not true. The listing that I have already described, and it just so hap-

pens that investors generally rate operating electric utility companies on a different basis than they do gas companies and the classification that I have been using is the one which I have already defined as to the elimination process.

Q. You mean gas companies whose stock is held widely by the public when you make that statement?

A. That's correct. It is analyzed.

Q. You haven't made any comparison of gas companies such as Canadian River and Colorado Interstate and Natural Gas Pipeline Company of America with these very profitable electric utilities?

A. Well, I haven't made any comparison of any companies upon which I couldn't get market quotations and have earning statements available to know what the company was doing.

(Vol. XV, pp. 2170-2173.)

Q. Do you know of a company by the name of the Panhandle Eastern Pipe Line Company?

A. Yes; I do.

Q. You didn't include that one in your list, did you?

A. No, I did not.

Q. Do you know the extent of the physical properties of that company?

A. Yes, I am aware of those.

Q. And have you Poör's statement on that?

A. Yes. What figure do you want, the plant and property again?

Q. Yes.

A. As of December 31, 1939 the property, plant and equipment totaled \$59,479,728.

Q. Does it give the mileage of main pipe line?

A. It has approximately, as of December 31, 1939, 860 miles.

Q. What states does it operate in?

A. Well, the company operates the natural gas transmission system from the Amarillo gas field in the Texas Panhandle, and in Oklahoma, Kansas and Illinois, and to a point near Dana, Indiana, which is adjacent to the Indiana-Illinois state line.

Q. At that point it delivers its gas for ultimate delivery in Detroit, Michigan?

A. Yes.

Q. Does that indicate or give a figure as to the volume of gas sold or transported during any calendar or fiscal year?

A. I have it in dollars, the gas sales, in dollars.

Q. All right.

A. For the year ending December 31, 1939, the gas sales totaled \$11,461,388.

Q. It doesn't give it in Mcf.?

A. The total open flow connected in terms of Mcf. for the year ending December 31, 1939, was 4,021,000.

Q. That company is engaged solely in the natural gas operations, is it?

A. Yes, sir.

Mr. Dougherty: Excuse me. You said "connected load," or did you say that it was the sale? Is that what they have connected to the well?

The Witness: This sentence says: "The total open flow connected in terms of Mcf."

Mr. Dougherty: That is the well. What Mr. Lange wants is the output of the pipe line.

Mr. Lange: Yes.

The Witness: Gas sales in Mcf. amounted to 47,850,723.

Mr. Dougherty: Mcf.?

The Witness: Mcf.

By Mr. Lange:

Q. That is a sizeable company in the industry, isn't it?

A. Yes, it is a sizeable company in the industry.

Q. What do you have there on their bonds?

A. Well, the funded debt has some Texas Interstate Pipe Line Company leasehold purchase obligations—they are outstanding in the amount of \$41,000; the Panhandle Eastern Pipe Line first mortgages and first lien bonds, Series A, 4 per cent, due 1952; rating A; outstanding, \$22,500,000.

The Trial Examiner: Is that your rating, Mr. Coffman, or is that Poor's?

The Witness: This is Poor's.

By Mr. Lange:

Q. You haven't any rating on them?

A. We have a rating on it, but since it was excluded from our list I don't have our sheet, but again the ratings would be about the same.

Q. Now, then, how did the size of that company compare, for instance, with the El Paso Natural Gas Company that you have in your list?

A. Well, the El Paso Natural Gas Company for June 30, 1940, had property, plant and equipment of \$22,266,832 and the Panhandle Eastern Pipe Line Company had for December 31, 1939, property, plant and equipment of \$59,479,728—a little less than half.

Q. You don't have in your list the Northern Natural Gas Company, do you?

A. No.

Q. Will you look at Poor's on that company and give us the size of the physical properties—the extent of the physical properties?

A. Northern Natural Gas Company as of December 31, 1939, had plant, property and equipment, and so forth, of \$49,631,451.

Q. What states does that company operate in?

A. Well, it operates natural gas transmission lines extending from the Texas Panhandle and the Hugoton-Kansas gas field to South Dakota and Minnesota.

Q. Give the mileage of main lines.

A. The mileage is approximately 2750 miles with the company and its subsidiary.

Q. The volume of its gas sales in the last year?

A. No, sir, that figure isn't given.

Q. Is it given in dollars?

A. The only figures given in dollars are gross earnings from operations and as of December 31, 1939 that was \$11,194,470.

Q. What is given on the company's outstanding bonds?

A. Well, it has common stock outstanding of 203,000 shares, and that is owned 30 per cent by Lone Star Gas Corporation, 35 per cent by North American Light & Power, and 35 per cent by United Light & Railways Company. It

has \$16,000,000 of first mortgage and first lien bonds, Series A, 3-1/4's of 1954 outstanding; Poor's rating, A. That comprises the capital structure.

Q. Now, that company is engaged solely in natural gas operations?

A. Yes, that is correct.

Q. And you don't think that the inclusion of that company or a company of that size, any of the physical properties in operation, is essential to get a correct picture of the industry?

A. Well, there again I couldn't get the investors' appraisal of the securities because they weren't in this period being transacted over the counter so you could get some idea of the investors' appraisal of what the shares or bonds were worth.

Q. You did state, however, that your company has a rating on all of those companies; that is, the United Gas Pipe Line, and Northern Natural, and Panhandle Eastern?

A. I don't believe I said quite that. If bonds are held exclusively by a given company so that there is no general investment in it, we don't rate the bond because there is no purpose in it.

Q. Poor's rates all of those, doesn't it?

A. Poor's has ratings on these.

Q. And where do they get their information?

A. Well, they get the same information we get.

Q. But they include them in their ratings?

A. Well, they give a rating on the issues of which I have discussed.

Q. What does Poor's attempt to reflect? What is the purpose of the use of Poor's in the industry?

A. Well, they are supplying information to investors, the same as we are, and wherever there is any general investment interest in a security they supply the same information that we do.

Q. Well, isn't the broader the gauge the better the information—the more accurate?

A. Well, I still come back to the statement I made again that if the great bulk of the capital structure of any company isn't traded upon so that you can find either an actual quotation for transactions or at least a bid and ask

quotation, I don't know how you can appraise the investors' attitude toward the risk involved.

Q. Oh, does Poor's list bonds of Canadian River Gas Company and Colorado Interstate Gas Company? Let's have the rating on that.

A. I don't find anything here on Canadian River, and there is nothing on Colorado Interstate directly. There is nothing on either one of those companies.

Q. Nothing on either Canadian River or Colorado Interstate?

A. Not as such.

Q. Doesn't Poor's list them at all?

A. The only reference made to Colorado Interstate is referred to only in connection with the Peoples Gas, Light & Coke Company. There is nothing on it directly.

Q. How is it referred to indirectly?

A. Well, the only reference that I can find is merely a description here of certain contractual relationships in regard to gas supply.

Q. Contractual relationships?

A. Yes. It says: "On October 15, 1931, also, Natural Gas Pipeline Company of America entered into a contract with Colorado Interstate Gas Company (in which company the "Peoples" Company has no interest but which, it understands, is owned or controlled by certain other stockholders of Natural Gas Pipeline Company of America) for the purchase, at Gray, Oklahoma, of 25 percent of its requirements for natural gas. Said contract continued in effect until September 30, 1946, and thereafter at the election of Natural Gas Pipeline Company of America for additional periods of two years each. The "Peoples" Company understands that Colorado Interstate Gas Company purchases its entire supply of natural gas under a long term contract from Canadian River Gas Company (in which company the "Peoples" Company has no interest), which, the company is informed, owns leaseholds covering substantial natural gas acreage in the Texas Panhandle gas field."

Q. And as far as you can find, is that all that Poor's has on it?

A. That seems to be the only reference that I can find in here to Colorado Interstate.

Mr. Lange: Well, that's all right, then. I believe that's all for the present, Mr. Examiner.

The Trial Examiner: Mr. Coffman, you used the term here, "investors' appraisal of risks of capital." Now, as a matter of fact, through the application of your formula to the specific companies named in Exhibit 73, doesn't the result merely indicate that the securities of the electric utilities therein named were more favorably received on the average than the natural gas utilities securities named therein?

The Witness: I think that is one way of stating it. I think yesterday that I described it as saying that for the summary on Page 21 which gives them all to you in one view, that the conclusion is that investors, based upon this information I have presented, believe that there is less risk connected with electric utility operating companies or water companies who manufacture gas and mixed gas, than they do believe there is risk connected with the all natural gas companies.

Now, I presume that they look with more favor upon it is equally as good a way to explain it. In terms of risk, however, it seems to me it indicates they feel less risk attached to electrical utility operating companies than they feel there is risk attached to natural gas companies.

The Trial Examiner: Well, now, one further question: Supposing that, we'll say that Colorado Interstate, for instance, there is some holder of a large block of stock in that company that desires to place that stock upon the market and sell it to the public and supposing a prospective purchaser contacts you seeking whatever information you had, we'll say, with regard to this particular purchase, and supposing that at the same time another offer of securities was made, we'll say, by the Boston Edison Company. Would you advise the prospective purchaser of the securities of the Colorado Interstate Gas Company that that purchase involved a risk of approximately 3.75 per cent greater than the purchase of the securities of the Boston Edison Company?

The Witness: Well, I think our first approach would be to that problem that we would consider information such as given here. It gives some idea to either the purchaser or the seller as to what the general appraisal seems to be at the present.

Now, in the case of the Colorado Interstate, we would consider, for instance, the question of marketability on the one hand and in contrast to Boston Edison as a separate consideration. We would also consider the fact that to date we, and we believe, investors generally have had no information on Colorado Interstate; whereas, we have had what we consider to be reasonably good information in regard to Boston Edison and it would be a question in looking over all of these risks of appraising the investor of what we thought the thing was worth if we had more information to go on. If we didn't have any more information in regard to Colorado Interstate under the circumstances you mention than we do right now, all we could hope to do would be to present some general information of this kind and then let the prospective buyer form his own opinion. As a matter of fact, in the case of the Colorado Interstate, if we had no balance sheet and operating statements, we wouldn't advise the man what we thought about the price at all because we have nothing to go on except this general information here which shows the general class of yield at the time.

The Trial Examiner: But that is all that you could submit to him, would be general information? You couldn't on the basis of your formula here, you couldn't get down to the specific risk involved in the purchase of securities in Colorado Interstate Gas Company?

The Witness: Well, we could approach it on the basis that we have this general information; that is, how in the general utility field on the whole one class of security seems to sell in comparison to another. We feel that would be helpful to a prospective buyer.

If his question to us is: "What should I pay for Colorado Interstate common stock?" let us say, we would have to say just what I have said in this hearing, that we have no financial and operating information in regard to that company. Therefore, we couldn't pass an opinion on that phase of the question.

Mr. Lange: Just one further question.

Q. Isn't it true, Mr. Coffman, that an investor when

he desires an appraisal of securities he wants the appraisal of any particular company, not of a lump group?

A. I would say that was not correct. When we make an analysis in our business of companies we first start with as thorough an analysis as we can make of the industry to see what actually is happening in that particular type of activity—industrial activity, and then from that we come down to individual companies, and I think we are giving that full weight right along the line on all the companies, regardless of whether utility, industrial, or what it is.

Q. But in the instance as cited by the Examiner, you wouldn't be able to give them anything on Colorado Interstate or Canadian River?

A. Not on the individual company because we do not have financial or operating statements on those companies.

Q. Well, what information do you give investors with reference to individual classes of stock as between common and preferred, for instance, of a company?

A. Well, I am not sure I get your question. We present in our service, of course, the balance sheet as it is reported in the annual report which shows the breakdown of the capital structure as to commons, preferreds, and bonds.

Q. Your appraisals to investors are not as to individual classes of stock?

A. Well, in our earnings bulletin, as I have pointed out, we group them according to class so that a man can look across the board.

(Vol. XVI, pp. 2193-2204.)

Q. Can you get the appraisal of a risk of a particular company if you only have, say, bonds as a part of your study and have no information on what prices have been paid for other securities of the company?

A. No, unless we could get quotations on the capital structure as a whole so that we could see what we term the indicated market value of that capital was, we couldn't get the appraisal of the investor.

Q. Is it necessary, then, in order to get the general picture, and an accurate picture of the investors' appraisal of any particular company that you have this information on all securities that that company has outstanding?

A. Yes, it is.

Q. Is that the reason why you didn't include gas companies such as Northern Natural, Panhandle (Eastern, and United Gas Pipe Line Company?

A. It is.

Q. If the other securities; that is, if the securities of those companies other than bonds had been bought and sold during this period in such a manner as to give you a record of what the sales were, would you have included them?

A. If we would have had sufficient information we would have included them.

Q. You were asked a question the other day—or yesterday—about Public Service Company of Colorado, as to why you did not include that. Can you tell us why, referring to whatever information you need from Poor's manual?

A. Well, the Public Service Company of Colorado is a subsidiary of the Cities Service, Power & Light, and it has a total funded debt outstanding, December 31, 1939, of \$52,500,000. Further, the income account—the consolidated income account, ended December 31, 1939, showed that electrical revenues were \$11,797,769; whereas, the gas revenues were \$5,510,878, so that it wasn't a natural gas company and fit into the division of which we were discussing the natural gas company group.

Q. Does that Manual show the ownership of the common stock of Public Service Company of Colorado?

A. The common stock, \$100 par, was outstanding in the amount of 229,900 shares. Cities Service Power and Light Company owns 229,879 shares, or 99.99 per cent. It also owns 31,235 shares of the 7 per cent preferred; 7644 shares of the 6 per cent preferred, and 1356 shares of the 5 per cent preferred.

Q. In the absence of any sales of common stock of that company, could you form an opinion as to the investors' appraisal of the risk of capital in that particular company?

A. Well, no, we couldn't, because the common stock in that particular case was a very important section of the capital of the company as a whole.

Further Testimony of the Company's Witness GILMAN.

Q. What do you understand is the thing that is referred to as the spread of the underwriters or the amount which the underwriters obtain for selling these securities—take bonds, for example?

A. The cost of financing a particular class of securities is composed of two items; one, the fee or the commission which the underwriter gets for his work in selling the issue to the public, and the second part, the cost which is necessarily incurred by the company for its counsel for its cost, perhaps, of obtaining the approval of the registry authorities; for printing of its prospectus, for its accountant—the sum of the two go to make up the total cost of financing.

In the normal case the public utility companies, of which a good many millions of dollars of bonds for refunding have been sold in the last five years, two per cent. or two points is by and large the standard fee which is required by underwriters for their services in distributing the securities in sizeable blocks for companies with a good credit rating.

Q. That, as I understand it, is prescribable to bond issues?

A. Bond issues. In addition to that, in connection with the issuance of bonds, there would be the expenses of the company, which I have just described, such as for accountant fees, legal bills, and things of that kind which vary anywhere from one-half of a per cent up to as high as one per cent or higher. So the measure of the cost of issuance of bonds, including the underwriting spread and the expenses of the company, would vary from two and a half to perhaps three per cent. I think two and a half would be a minimum figure.

Q. I notice that you say in your statement that very few preferred stocks or common stocks of utilities have been issued in the last several years. Has there come under your observation, either while you were with the Securities and Exchange Commission or since, any issue of preferred or common stock of public utilities which did cost the companies more for those who sold the stock?

A. There have been a few issues of preferred stocks of public utility operating companies, primarily electrical companies. Generally speaking, they have been issues which

have been of a lower dividend rate and have been put out by electric companies to replace an outstanding issue of preferred stock that had a higher dividend rate of six or seven per cent, and being replaced by a four and a half or five per cent issue. There have been a few issues of that kind by companies of high credit standing.

There have been practically no sales or very few sales of public utility operating company common stocks in recent years—by "recent years" I mean from 1935 to 1940. There have been, as far as my search indicates, only four or five instances involving the sale of common stock of public utility operating companies to the public.

Q. Are you familiar with the price of those stocks to the public at the time they were sold and the commission or charge that the underwriter made in those instances?

A. I am.

Q. Now, having in mind your suggested form of capitalization of a company such as Colorado Interstate of 50 per cent bonds and 50 per cent common stock, what in your opinion would be the cost of financing of the bonds and the common stock—in other words, dividing it into those two factors—what would be the overall cost?

A. Well, if under today's conditions Colorado Interstate Gas Company would be financed, and if financed as I believe it could be most economically financed, 50 per cent bonds and 50 per cent common stock to the public, in my opinion the cost of obtaining the borrowed portion of the money would be a minimum of 2½ per cent of the proceeds. The cost of obtaining the equity portion would be substantially higher. As I say, there have been few sales of public utility common stock in recent years from which to obtain a gauge of what underwriters would require. There have been no sales of any importance of pipe line company stocks. I think the best indication of what it would cost to sell the common stocks of a company such as Colorado Interstate Gas Company would be obtained from an examination of what it has cost to sell the common stocks of the few companies which have been sold in recent years. Among those are the common stocks of the Washington Gas Light Company, Indianapolis Power and Gas Company, Newport Electric Corporation, Michigan Public Service Company, and Danbury & Bethel Gas & Electric Light Company. Those

as I say, as far as my search indicates, are the only important issues or sale to the public of common stock of public utility operating companies in recent years.

In the case of the Indianapolis Light and Power Company, a large electric company serving Indianapolis, Indiana, where approximately \$6,000,000 worth of common stock was sold to the public, the underwriting discounts and commissions were \$1,429,670 or 8.3 per cent of what the public paid for the stock.

In the case of the Newport Electric Corporation, a smaller electric company serving Newport, Rhode Island, the common stock was sold to the public under which the underwriter's commission was \$2.50 per share for common and the sale price to the public was \$29.50 a share or a cost of 8.5 per cent.

In the case of the Washington Gas Light Company in which approximately \$10,600,000 of common stock were sold to the public, the fees and commissions to the underwriters—I should say, rather, the underwriting discount or commission—amounted to \$576,683, or 5.4 per cent of the price to the public. In that case it should be noted that the underwriters did not enter into a firm commitment to purchase the stock. They did agree to purchase a portion of the stock and they underwrote that in the common sense of the word "underwrite." The balance of the stock they sold from the box—in other words, they took no commitment with reference to the balance of the stock—so that is not really a fair measure. They didn't take a risk on all of the stock and their fees were below what would be considered customary.

In the case of a recent issue of common stock in November 1940 where the stock was offered to the public and sold to the public, but where I understand the offer was later withdrawn, the underwriting fees and discounts were \$1.50 per share of common, and the sale price was \$17.50 per share of common stock or a figure of 7.2 per cent.

Q. What company is that?

A. The Danbury & Bethel Gas & Electric Light Company.

I have omitted one company, which is the common stock

of the Michigan Service Company, a small operating company, primarily an electric company in the lower peninsula of Michigan, where the underwriting discounts and commissions were approximately 13 per cent of the price to the public.

The range which covered these five issues of common stocks show a cost of issuance in the Washington Gas Light Company where there wasn't a complete underwriting, from 5.4 per cent to 13.7 per cent as in the case of the Michigan Public Service Company. There were several substantial issues in the neighborhood of 8 per cent.

In my opinion, if Colorado Interstate Gas Company were to offer their underwriters common stock for a sale to the public under today's condition the cost of the issuance, including underwriting, discounts, commissions, and expenses, would be at a minimum 8 per cent. Therefore, if 50 per cent of the capital is obtained through bonds which cost 21½ per cent, as I have previously stated, and 50 per cent common stock at a cost of 8 per cent, the overall cost of obtaining all of the capital would be 5.25 per cent.

Q. In your opinion is that a reasonable estimate of the cost of financing for a company of this sort under the capital structure you mentioned?

A. It is.

(Vol. XVI, pp. 2290-2295.)

Q. And have you testified in any other proceeding in the rate of return?

A. Yes, I testified in the proceeding before the Federal Power Commission and the Illinois Commission in the matter of rate of return for the Natural Gas Pipeline Company of America.

Q. And what rate of return did you testify to in that proceeding?

A. Eight per cent.

(Vol. XVII, p. 2303.)

Q. Do you know what company or group controls the Colorado Interstate Gas Company at present?

A. I do.

Q. Who?

A. 42½ per cent of the common stock is owned by Standard Oil Company (N. J.); 42½ per cent by Southwestern Development Company, and 15 per cent by Public Service Company of Colorado.

Q. Well, you state, though, in your testimony, that you would propose a financial structure that would consist of 50 per cent bonds and 50 per cent stocks for this company, didn't you?

A. Yes, if it were being financed today I think that would be a reasonable financial structure for the company.

Q. Why?

A. Because I think that is the financial structure under which, if the company was to be financed today, that would give the most economical cost of capital.

Q. Why wouldn't this enterprise be financed now as it was when it was constructed?

A. Well, I could make no assumptions. I have to assume, or anybody would have to assume that if the company were to be financed today that it would be financed with public sale of its securities.

Q. And you are certain that it could not be refinanced in the same fashion that it was originally financed?

A. I wouldn't say that it couldn't be, but I would say the probabilities are that it would not be and I am trying to adopt a most reasonable probability.

Q. Of the construction or financing of a hypothetical company newly organized, or to be newly organized?

A. I don't believe that under today's conditions that it would be feasible, proper or reasonable to assume that a natural gas pipe line enterprise such as this kind would be financed through the issuance of debt up to 80 or 90 per cent of the value or cost of construction.

Q. Well, have you approached this whole subject in the light of reconstructing a hypothetical company here with its properties?

A. No, sir.

Q. Have you given any consideration to the original cost of the properties?

A. I haven't attempted to determine any values of the property.

Q. To what extent have you given any study or consideration to the records of this company as to its original cost?

A. Well, I have had available to me the company's finan-

cial statements which show the book value of its fixed capital. I have examined the estimates of reproduction costs new and reproduction costs new less depreciation as introduced in this case and I have looked at the study of original costs prepared by the company.

Q. Well, wouldn't investors be very much concerned with what the history of this company was as to the cost of its properties?

A. Yes, investors are concerned about those things.

(Vol. XVII, pp. 2314-2313.)

Q. Well, then, going back to this contract between Colorado Interstate Gas Company and Canadian River Gas Company, did you assume that that contract would expire and not be renewed at its termination?

A. There is an option arrangement in that contract under which Colorado Interstate Gas Company can continue to get gas as long as it finds that it can economically market that gas.

Q. So you didn't place any element of risk at that point, did you, as to the possibility of no renewal taking place?

A. I don't understand that question.

Q. You didn't assume any element of risk in connection with the possibility of Colorado Interstate Gas Company not being able to get an adequate supply of gas after the termination of this present contract with Canadian River Gas Company?

A. No, I don't think there is any element of risk there. The contract says that Colorado Interstate Gas Company has gas up to a certain time and thereafter it has the right to obtain gas from Canadian River Gas Company as long as it can economically—if it determines it can economically market that gas.

Q. So, insofar as the source of supply of Colorado Interstate Gas Company's requirements are concerned, it will have available to it a supply of gas as long as Canadian River Gas Company can supply it from its own reserves?

A. I think that is right. If Colorado Interstate Gas Company finds that it can economically market the gas, the Canadian River Gas Company under the contract—that option exists.

(Vol. XVII, pp. 2330-2331.)

A. One of the requirements of this list is stated very clearly in that there has to be a common stock outstanding in the hands of the public in order to get an investors' appraisal.

Q. Are these the only ones available for that kind of a study, these in appendix 1, where you can get an investors' appraisal of risks from common stock that is in the hands of the public?

A. Those are the only companies in my opinion which are natural gas pipe line companies not engaged in substantial distribution operations which have gross operating revenues of \$2,000,000 or more, and which have common stock outstanding in the hands of the public from which a measure of investors' appraisal may be obtained.

Q. In other words, there are a number of other natural gas companies, that if they had common stock in the hands of the public that you would have taken into consideration?

A. Yes.

Q. Supposing it was the other extreme. This is a pretty small list among the numerous companies operating in the natural gas business in the United States, isn't it?

A. As many as I could get.

Q. Suppose there weren't any at all available; you could not make any study then?

A. We would have to rely upon other information.

(Vol. XVII, p. 2377.)

Further Testimony by the Company's Witness, SANDS.

Q. By what mathematical formula do you arrive at 81 1/2 per cent?

A. That is purely a judgment figure after considering all of the hazards.

Q. That is purely a judgment figure?

A. Purely a judgment figure. It is just arrived at in the same manner as a legal opinion or a doctor's diagnosis.

Q. You placed it on that same basis?

A. It is professional judgment.

(Vol. XIX, pp. 2695-2696.)

Q. You do know that the natural gas as well as all electric energy distributed in Denver is distributed by one company, the Public Service Company of Colorado.

A. Yes, correct. What extent they push either one of the commodities, I don't know.

Q. To what extent they are competing with themselves, you don't know?

A. They are very active, and I presume they push their commodity—

Q. But you don't have that character of direct competition between two companies that you had cited as obtaining in those other towns?

A. That's right, on cooking and refrigeration. That's not true of coal, of house-heating.

(Vol. XIX, pp. 2713-2714.)

Q. Did you give any consideration—strike that.

In determining the element of risk that may be there, did you give any consideration at all to the corporate affiliation between Colorado Interstate Gas Company and Public Service Company of Colorado?

A. No, I assume that—

Q. That has no bearing on your assumption at all?

A. No, that relationship is going to be economical, entirely.

Q. It is an economical relationship entirely?

A. Yes.

Q. And you gave no consideration to the background of the history of this project at all in connection with the—

A. No.

Q. —with Colorado Interstate Gas Company and Public Service Company of Colorado?

A. No.

Q. Do you know what company owns Public Service Company of Colorado or the majority of its stock or any phases of the corporate control?

A. I believe Cities Service-Power Co.

Q. Do you know what company owns the control of Cities Service?—Cities Service and Power?

A. I am under the impression that Cities Service does.

Q. And you, of course, know that Public Service Com-

pany of Colorado owns the control of Colorado-Wyoming Gas Company?

A. I have no idea who owns control of Colorado-Wyoming.

Q. Oh, you do not?

A. I stated that just a few minutes ago.

Q. Now, then, you say that because of the expiration date, this Denver contract, and the obtaining of a new franchise at the time of such expiration, the element of risk comes into the picture as discussed by you. What in your opinion will take place at the time of expiration of that contract?

A. Will take place in what way?

Q. As to the possible renewal of the contract, or the continued purchase of natural gas by Public Service Company of Colorado from Colorado Interstate Gas Company?

A. You don't expect me to prognosticate the vote of the people of Denver, do you? I am a poor hand at prognosticating votes, I find.

(Vol. XIX, pp. 2724-2726.)

Q. When has there been any total interruption of service to domestic users since then at Denver?

A. Give me just a minute and I'll see if there have been any more. I think that is the only total interruption.

Q. How long has this company operated?

A. It started sometime in 1928, I believe.

Q. There has been one total interruption during that entire period up to date?

A. One total interruption of 49 hours.

Q. All right, because of that interruption, did any of the people that had used gas cease using it because they were afraid of that risk?

A. I don't think that's the question.

Q. Oh, it isn't? Well, what is the question of the risk?

A. The question is, did anybody fail to come out on the line and use gas?

Q. After that time?

A. After that time.

Q. Have there been any people or any possible users that have failed to come on the line because of that break?

A. I couldn't tell you.

Q. You don't know?

A. No, I don't.

Q. Did they lose any customers at that time because of the break?

A. I don't think so. I don't know.

Q. Well, what character of risks do you have in mind that these supposed breaks or interferences—what is the character of risk that you have in mind?

A. You are just talking of one outage, the one of 9/9/33, that's a total outage.

Q. I want to know what effect it had, if any, and the risk element that you took into consideration in preparing this rate of return study.

A. All right.

Q. Is it purely a mechanical risk or what?

A. The longest out they had, not a total outage, was 63 hours at one time. That was the Colorado Portland Cement Company.

Q. And that was an industrial load.

A. That was an industrial load that was cut off to preserve the domestic load.

Q. Well, all of these industrial contracts except a particular part of Colorado Fuel & Iron have that provision that they are subject to being cut off?

A. That's right.

Q. Surely.

A. That's right.

Q. Why does that constitute a risk?

A. It constitutes a risk. How often can these outages occur and still have the company continue to use the gas service?

Q. The company can continue—you mean the purchaser?

A. Yes, the ultimate purchaser.

Q. This purchaser doesn't know the element of weather?

A. No, but he wants continuity of production in operations.

Q. He writes his contracts and he knows that his service may be interrupted at any time the degree days are such as to make it imperative on the company to interrupt that service, doesn't he?

A. Yes.

Q. All right, is that a risk that you have taken into consideration?

A. You bet your life.

Q. The character of the contracts that the industrial consumers enter into giving domestic priority over them, that is a risk that you take into consideration?

A. Yes, sir.

Q. Has the company, as a result of placing such a condition or restriction in its contract, lost any of its customers at any time?

A. That I don't know. I just know that it is sound business to know that a company is not going to be cut off for seventy-five hours—I think it was—very frequently.

Q. And the contracts—

A. And the companies don't care about the—the manufacturer, the producer won't stand for continuous interruptions. He can't afford to.

Q. Even though the same interruptions would occur because of weather conditions that would necessitate the interruption of his service, because of cold days that require the interruption of the service to industrial users because of the requirements of domestic users?

A. You'll have to repeat that question. Read that.

Q. Just strike that. I'll make it this way:

The contracts that are entered into between the industrial users and the Colorado Interstate Gas Company all have priority of service, don't they?

A. That's right.

Q. And the industrial users enter into those contracts with that condition in them?

A. Yes, that's correct.

Q. And those priority of use provisions come into play whenever cold weather sets in to such a degree that the domestic use may demand the deferring or cutting off of that industrial user?

A. Yes.

Q. He enters into that contract with that condition in mind, doesn't he?

A. He does, and realizing and hoping that that hazard won't be too great, but if that hazard becomes too great he won't continue as a customer, because he can't afford to do it.

Q. Well, has the company lost any industrial customers because of that hazard?

A. I can't tell you. It is a hazard that exists.

(Vol. XIX, pp. 2737-2741.)

Q. Mr. Sands, in your exhibit you state you have an office in the First National Bank Building of Denver?

A. Yes, sir.

Q. What position, if any, do you hold with any department of the City of Denver?

A. I am on the Water Commission of the City of Denver.

Q. The Water Commission of the City of Denver.

A. Yes, sir.

Q. How long have you been on that Board?

A. Oh, I think seven or eight years.

Q. You are not appearing in this case in any official capacity, are you, for the City of Denver?

A. None whatever.

(Vol. XX, p. 2744.)

Further Testimony of the Company's WITNESS, O'CONNOR.

Q. Just this question in connection with the preparation of the exhibit, Mr. O'Connor: Will you briefly state what information you received and from whom and what was the manner of your assembling the data for the preparation of the exhibit?

A. Well, as far as estimating sales volumes, we had the records of the Canadian River Gas Company from 1928 on, and the records of the Colorado Interstate Gas Company.

Q. Over what period?

A. From inception through 1940.

Q. Both companies?

A. That's right, and then we interviewed the Amarillo Oil Company group and got some information and got some information from Mr. W. W. Rusk, the Chief Engineer, and also from Mr. P. C. Spencer from New York, and then we interviewed each company to whom the Canadian River Gas Company—I mean the Colorado Interstate Gas Company sells gas, both distribution companies and direct customers, and we got information from all of those sources; and then we interviewed the larger industrial customers served by the distribution companies and got further information from

them. We didn't interview anybody in connection with the Chicago line but we found that the company had estimated a practically constant volume of sales in the future—ok, through about the next seven years, and we adopted the same figure for 1941 as actual sales for 1940.

Now, our estimate is higher than the company's estimate, but it is due to the fact that their estimate for 1940; that is, the Chicago Company estimate for 1940 is quite a bit below what they actually did sell. We assumed the sales for 1941 would be practically the same as 1940. The line is pretty well loaded up. I have a long list of people that we interviewed. It runs three pages.

Q. That encompasses the names of the people representing the purchasing companies or industrials to whom sales were made?

A. Yes.

Q. And approximately over what period of time was this information and the data assembled on which you predicated the preparation of the exhibit?

A. Part of the people were interviewed in May and June of 1940, but some of the more important people were interviewed subsequently, some as late as February 1941.

(Vol. C, pp. 15553-15555)

Further Testimony of the Commission's Witness, Bosworth.

"As a result of the construction of this pipe line, fuel costs for a number of industries were reduced and domestic consumers received a very substantial reduction in the cost of their gas. If you take Denver as an example, in 1927, the last full year in which the Public Service Company supplied manufactured gas, a total of 3,252,107 Mcf. was sold and total gross revenues of the gas department of the Public Service Company for that year were \$2,368,145. In 1939, gas sales were 7,054,174 Mcf. and total gross revenues were \$4,021,384.

"The revenue had increased about 75 per cent and the amount of gas sold had more than doubled. In one respect this comparison is misleading, because the manufactured gas sold in 1927 contained only 336 B.T.U. per cubic foot, whereas, in 1939 the natural gas had approximately 850

B.T.U. content. In other words, one cubic foot of natural gas in 1939 would do two and one-half times the work of one cubic foot of gas in 1927. Therefore, the consumption in heat units in 1939 was nearly five times that of 1927 and the heat units increased nearly 430 per cent.

Using the reports from the Public Service Company of Colorado, filed with the Colorado Public Utilities Commission, one learns that in 1927 the Public Service Company received \$2.16 per million B.T.U. of manufactured gas (Denver only) and in 1939 the company received an average of 69 cents per million B.T.U. One million B.T.U. might seem like a very large amount but as a matter of fact that is only 1.2 Mcf. of natural gas. These are total figures which include residential, commercial, industrial and other sales. The domestic consumer in 1927 paid \$2.50 per million B.T.U. for his manufactured gas and in 1939 he paid 96 cents per million B.T.U. for his natural gas. In 1927, the Public Service Company had practically no house heating customers, but in 1940 there were over 14,000 houses in Denver heated by natural gas. The number of customers is steadily increasing which indicates that the consumer prefers natural gas to other fuels.

(Vol. XX, pp. 2775-2777.)

Q. Now, Mr. Bosworth, what consideration, if any, did you give to the term of that contract?

A. Twenty year—

Q. The period of its life in this study?

A. I gave full consideration to it.

Q. What consideration, if any, did you give to its expiration date? When does it expire?

A. In 1948.

Q. In 1948?

A. But it is subject to renewal.

Q. It is subject to renewal?

A. As long as Canadian River has gas and as long as Colorado Interstate determines it is profitable to buy on the terms of that contract.

Q. Well, did you give any consideration to that phase of it in your study?

A. Yes.

Q. What respect did that have a bearing on your rate of return?

A. That apparently this gas line has a gas supply as far as can be determined for some years ahead.

Q. What investigation did you make with reference to that?

A. I made none.

Q. You did not?

A. I inquired—I mean, I am not an engineer, you know. I didn't make an engineering investigation.

Q. From whom did you get your information with reference to its supply of natural gas?

A. The latest was from Mr. Hendee.

Q. From Mr. Hendee?

A. Yes. I have been interested in the subject as relating to other things. I talked to Mr. W. H. Ferguson, Executive Vice President of the Continental Oil Company about the Texas Panhandle.

Q. First of all I will ask you this: What did Mr. Hendee tell you with reference to the adequacy of the supply?

A. He told me that there was no question but what the gas supply would extend longer than the Canadian River's contract.

Q. Longer than the Canadian River's contract?

A. Yes.

Q. Did you discuss with him further the character of the holdings in the field, the wells they have, and the productivity they have? Did you go into any of those phases?

A. I asked about matters of that kind. I don't think it is possible for anyone to state just what the life of that field would be with four or five major pipe lines pulling on it. It is a very different situation than when this company started. When it started it was the only one big pipe line drawing on those fields. Since then the other companies have come in and are depleting the field—

(Vol. XX, pp. 2817-2820.)

Q. What is the correct statement with reference to what the two major markets of Colorado Interstate Gas Company are?

A. Well, certainly the major wholesale market is the Natural Gas Pipeline Company of America because I have just stated that I believe that one-half of the gas handled by this company goes to that line, and the other half goes to the Denver line, and of that about forty per cent of the

gas that goes to the Denver line goes to the Colorado Fuel and Iron.

Q. I was limiting my question to the Denver line.

A. I see.

Q. Considering the Denver line alone, the two major markets on the Denver line are Colorado Fuel and Iron Company and the Denver gate, aren't they?

A. Unquestionably, yes.

(Vol. XX, p. 2830.)

Q. You say there is some element of risk in that there may be a possibility of the contract between Colorado Interstate and Public Service of Colorado not being renewed?

A. I think to this extent: If the company has gas at that time which it can and desires to sell, I think Public Service Company will want to purchase gas from Colorado Interstate, but the question of price, there is certainly uncertainty whether Colorado Interstate can secure as good a price as they are now getting. Nobody can tell today.

Q. The users in Denver and vicinity have converted all their equipment for the use of natural gas, haven't they?

A. Not all.

Q. Those who are using it, of course, are using equipment usable for natural gas?

A. That's right.

Q. Where is Public Service Company of Colorado going to get its gas if they don't get it from Colorado Interstate?

A. Gets natural gas?

Q. Yes.

A. They could, of course, go back to manufactured gas if they had to. They wouldn't do it if the natural gas supply were available. There are eight years yet in which new discoveries might come in.

Q. Where?

A. In Colorado.

Q. Do you know of any?

A. Or it might be possible to get it in Wyoming, because there is a very large amount of gas in Wyoming for which there is now no market, or it is conceivable they could get it from the Hugoton field.

Q. Where is the Hugoton field located?

A. In Kansas.

Q. About what distance is that from Denver?

A. Well, roughly, three hundred miles.

Q. Three hundred miles?

A. Yes.

Q. And you know, of course, that such company would have to apply for a certificate of public convenience and necessity?

A. I do.

Q. They would have to make a pretty detailed showing, wouldn't they?

A. Yes, but supposing they said to the Public Service, somebody came in—you and I, and we said, "We'll bring gas from the Hugoton field," and we make the arrangements down there satisfactorily, and we come up here to the City Council here and say, "We'll sell you gas at 30 cents."

Q. All right.

A. And Colorado Interstate says, "No, our gas is worth 35 cents. We can't afford to sell it any cheaper," then you go to the Federal Power Commission and say, "We want a certificate." I don't believe under the wording of that Act they would have much trouble in getting that certificate, would they?

Q. You mean you could get the gas at Hugoton field and sell it at the gate here at 30 cents?

A. That is an illustration of what might happen. I made no investigation as to whether they could sell it at 50 cents or 25 cents. I can't testify on that without going into an investigation.

Q. What is the illustration worth if it can't be followed through?

A. To show a hazard in spite of the fact that a certificate has to be obtained from the Federal Power Commission.

Q. A hazard to the Colorado Interstate?

A. Yes, of losing this business.

Q. Then you think that in your experience as a man who had dealt with the securities of natural gas pipe line companies that they could construct a line from the Hugoton field and transport gas into Denver and sell it at 30 cents and make sufficient on it that they can finance such a project?

A. I didn't say that at all. I said if this contract had run out and if we found by reason of the purchases to be made down there and by a careful investigation of the con-

struction costs of such a line, if we found we could sell it at 30 cents, I thought we could get a certificate from the Federal Power Commission.

Q. I am asking you now, as a man that has had experience in selling securities of this character, whether that basis that you gave, on that assumption, that they could construct a pipe line into Denver from Hugoton and make a showing that they could sell gas at the gate here at 30 cents; the project would be feasible, economical, and that you could get investors to invest in such an enterprise.

A. I certainly made no such statement as that, and I didn't make the assumption that it could be done. I said, if it could be done or if the Public Service Company could get its gas from Wyoming or perhaps in Morgan County, Colorado where there is some gas, or some other place, or we may open up some gas around Fort Morgan. There are a lot of possibilities that may take place before 1948.

Q. There is a lot of possibilities of anything liable to happen, but the only certainty about there being an adequate supply of gas in some other area is the Hugoton field at present?

A. I didn't say that, I say, there is just as good a chance of getting the gas in Wyoming.

Q. There is? Where?

A. Southern Wyoming, I believe there is — Hiawatha, North, South & Middle Baxter Basin, Powder Wash Dome.

Q. Would you advise investors to invest in building a pipe line from there into Denver now?

A. I wouldn't do it without a great deal of study and getting expert engineering advice. That hasn't been done.

Q. In other words, you would know about what the reserves and adequacy and the probable life of them would be?

A. I would attempt to arrive at that information, certainly.

Q. And how certain you would be of the Denver market, too, wouldn't you?

A. Certainly.

Q. Both of those would have to be pretty definitely shown to you before you would attempt to advise anybody of the feasibility of such a project or to put any money into such a project?

A. I certainly agree with you on that.

Q. You haven't made that investigation with reference

to either piping it from Wyoming or from Hugoton, have you?

A. No.

The Trial Examiner: Mr. Bosworth, some mention I believe was made by you of the contract with Canadian River Gas Company by Colorado Interstate where the cost of the gas is based on some sort of a cost arrangement.

The Witness: Yes, sir.

The Trial Examiner: Well, in view of that, do you think it would be possible for production to come out of the Hugoton field at any less cost to the pipe line than the cost to the Colorado Interstate?

The Witness: I don't think so.

The Trial Examiner: Don't you think that the Colorado Interstate Gas Company in view of its trained personnel and its management and its present experience could transport this gas at least as cheaply as any company that would come out of the Hugoton field?

The Witness: I should think so, absolutely.

(Vol. XX, pp. 2837-2842.)

Q. We haven't gotten to that point on this question. You presented one where the pipe line company produces its gas. Isn't it a fact that in this instance the same interest that controls Colorado Interstate Gas Company controls Canadian River Gas Company?

A. I think that is probably true. I can't testify as to that control.

Q. Then you have one other factor entering into that ideal situation remaining open and that is the marketing of the gas?

A. That is right.

Q. Now, then, you have already stated that the Colorado Fuel and Iron Company and Denver constitutes the major portion of the Colorado Interstate Gas Company's market by a large and major portion?

A. That is right.

Mr. Brock: The Denver line?

Mr. Lange: The Denver line.

The Witness: That is right.

By Mr. Lange:

Q. You have the delivery to the Colorado-Wyoming Gas Company?

A. Yes.

Q. Then those three constitute almost what percent of the total market of the Colorado Interstate Gas Company?

A. I don't know that figure because I don't know it.

Q. Roughly, it constitutes the great bulk of the market of that company, doesn't it? Those three gates?

A. Yes, I am sure of that.

Q. What element of uncertainty is there with reference to those three deliveries?

A. Because they do not control the marketing policies. They are wholesalers and it stops there. If they are a retailer and do a good job, fine; if he doesn't do a good job, what can you do about it?

Q. You are then viewing it in the light that the affiliation that exists between them has no bearing as to the certainty and continuity of that market?

A. I am not assuming that there is any affiliation that exists except contractual relationship.

Q. Are you assuming that there is none existing?

A. As far as I know there is none existing aside from the contractual relationship, the fact that the Public Service Company of Colorado owns 15 per cent of the stock in the Colorado Interstate pipe line.

Q. Very well. On the schedule—

A. I would like to—

Q. Yes.

A. May I make one remark?

Q. Yes.

A. I had forgotten for the moment, but as I understand it, the Canadian River Gas Company is 100 per cent owned by the Southwestern Development Company. The Southwestern Development Company owns 42-1/2 per cent of the stock of Colorado Interstate Gas Company, so there is a relative difference, I think, between the situation that would exist if the Colorado Interstate Gas Company owned a hundred per cent of Canadian River and the existing situation.

Q. How did you arrive at that conclusion that the difference would exist?

A. As I understood the question you asked me, the purport was "Why isn't it just the same thing as Colorado Interstate owning its own gas supply?"

Q. That is right.

A. I say that to me it is a little bit different because if Colorado Interstate owned 100 per cent of Canadian River, I would agree with you; it would be for practical purposes another thing, although there might be another corporate entity. Here Colorado Interstate doesn't own Canadian River at all. It is 42-1/2 per cent of the stock that is owned by a company which owns 100 per cent of Canadian River, or thereabouts, or there could be a conflict of interests arise that would be very different than if the situation were perfectly simple in that Colorado Interstate owned its Canadian River stock 100 per cent; if they owned 100 per cent of the Public Service Company and 100 per cent of Pueblo Gas and Fuel Company, and if they had no security outstanding, it would be a clean operating company to my mind.

Q. You say there might be a conflict of interest?

A. I would think so.

Q. Do you know of any that has occurred since the project has been in operation?

A. No, sir.

(Vol. XX, pp. 2860-2863.)

Further Testimony of the Commission's Witness, CHARLES KNAPP.

A. I commenced work in the year 1920. By 1925 I had taken business courses and completed my high school education through attendance at evening classes. In the fall of 1927 I entered the University of Vermont and studied for the degree of Bachelor of Arts and graduated with that degree in 1931. I majored there in languages and philosophy and was elected to membership in Phi Beta Kappa in my junior year. Following graduation I studied accounting, sat for the C.P.A. examinations and in 1934 obtained a certificate from the State of New York as a cert-

fied public accountant. I am a member of the New York State Society of Certified Public Accountants.

My experience began in 1921, when I was employed by Babcock and Wilcox Company as a cost ledger clerk. Thereafter I became bookkeeper for a wholesale lumber concern. In January 1925 I obtained employment with Peat, Marwick, Mitchell and Company as a junior accountant, and later during the same year worked on the staff of a smaller public accounting firm, and afterwards as bookkeeper for a silk manufacturing concern. The following year I was again employed by Peat, Marwick, Mitchell and Company in their income tax department for approximately a year, and then accepted a position as an accountant for a large wholesale bakery company, which position I resigned in the fall of 1927 when I entered college.

For three years while attending college I was employed on the staff of the firm of Francis C. Derby Company, public accountants in Burlington, Vermont, and continued with that firm for over a year after graduation. In the fall of 1932 I was employed by the firm of Arthur Anderson & Co., as a semi-senior accountant, but shortly thereafter my status was changed to that of senior accountant. In the fall of 1933 and thereafter while with Arthur Anderson & Co., I was in charge of audits of the eastern telephone operating subsidiaries of probably the largest independent system of telephone utility companies in the country, and was also in charge of holding and sub-holding company audits and consolidation work for that system. I was also engaged on audits of electric, gas and water utilities during the same period.

In the fall of 1935 I was employed as an accounting expert by the Federal Communications Commission on its investigation of American Telephone and Telegraph Company. While with that Commission I made an analysis of the principles and methods of consolidation employed in preparation of the published financial statements of the Bell System. I also prepared historical analyses and reports on investments of American Telephone and Telegraph Company in its telephone operating subsidiaries, and collaborated in the preparation of a report on the financial

history of the Western Electric Company, together with other studies and reports.

"In June of 1937 the telephone investigation was terminated and I obtained employment as a senior accountant with the public accounting firm of ~~Allen R. Smart~~ and Company. While employed by this firm I was in charge of the annual audit of United Aircraft Corporation and subsidiaries for the year 1937, and conducted a comprehensive investigation of that client's system of internal control.

"In April of 1938 I resigned to engage in private business as a public accountant, and in December 1938 accepted my present position with the Federal Power Commission. Since that time I have been employed in the Division of Finance and Statistics of the Bureau of Accounts, Finance and Rates with the title of Principal Examiner of Accounts and have been engaged in the study and preparation of reports on accounting and financial aspects of applications filed with the Commission in connection with sales of properties, mergers and consolidations and issuance of securities.

"I have also been engaged in studies and in the preparation of exhibits on the subject of rate and return and have testified as a witness for the Commission on this subject in five rate proceedings, namely, the Safe Harbor Water Power Corporation, Docket No. IT-5494, the Natural Gas Pipeline Company of America and Texoma Natural Gas Company, Docket Nos. G-109 and G-112, the Moline-Rock Island Manufacturing Company, Docket No. IT-5517, the New York State Natural Gas Corporation, Docket Nos. G-114 and G-125, and Chicago District Electric Generating Corporation, Docket No. IT-5500."

(Vol. LXXIV, pp. 10795-10798.)

A. "Introduction

I have been instructed to prepare a rate of return study setting forth the more important facts and factors which should be considered in arriving at a fair and reasonable rate of return for the Canadian River Gas Company, Colorado Interstate Gas Company and Colorado-Wyoming Gas Company.

• Definition of "Rate of Return."

The "return" received by a public utility consists of the amount of revenue remaining after deduction of necessary and reasonable operating expenses, rents, taxes, and depreciation and amortization accruals, but before provision for interest, dividends, or additions to corporate surplus. This "return" is ordinarily conceived as the product of a "Rate base" times a given "rate of return." Conversely, the "Rate of Return" may be defined as that percentage rate which, when applied to the rate base, will yield the total, over-all return for the particular utility.

• Statement of Principles.

It is generally conceded that the basic principles to be considered in determining the reasonableness of a particular rate of return were stated by the Supreme Court in the general rule laid down in the Bluefield decision as follows:

"What annual rate will constitute just compensation depends upon many circumstances and must be determined by the exercise of a fair and enlightened judgment, having regard to all relevant facts. A public utility is entitled to such rates as will permit it to earn a return on the value of the property which it employs for the convenience of the public equal to that generally being made at the same time and in the same general part of the country on investments in other business undertakings which are attended by corresponding risks and uncertainties; but it has no right to profits such as are realized or anticipated in highly profitable enterprises or speculative ventures. The return should be reasonably sufficient to assure confidence in the financial soundness of the utility and should be adequate, under efficient and economical management, to maintain and support its credit and enable it to raise the money necessary for the proper discharge of its public duties. A rate of return may be reasonable at one time and become too high or too low by changes affecting opportunities for investment, the money market and business conditions generally."

Another fundamental principle was stated by the Supreme Court in *United Railways v. West* in the following

words: "What will constitute a fair return in a given case is not capable of exact mathematical demonstration."

Although other factors doubtless have been considered by various courts and commissions, the underlying principles to be considered in connection with the problem of rate of return are probably nearly all covered in the above citations from holdings of the Supreme Court.

Identification of Rate of Return Study.

Based on consideration of the underlying principles set forth above, I have made certain studies and have either prepared or have directed and supervised the preparation of certain charts and schedules which have been assembled in two bound volumes, designated as Part I and Part II, respectively, for presentation in the present proceedings as exhibits entitled "Rate of Return Study."

Part I contains data on general interest rates and yields, utility interest rates and yields and recent financing, general economic conditions, comparative stability of earnings of public utilities and other forms of enterprise, local conditions in the general area of ultimate consumption of natural gas supplied through the pipe line facilities of the companies involved in the present proceedings, and data reflecting the present situation with respect to idle investment funds and the factors contributing thereto.

Part II of the rate of return study, besides containing some general statistics of the natural gas industry, presents facts concerning the ownership, issuance, prices and yields of securities of natural gas pipe line companies.

(Vol. LXXIV, pp. 10800-10803.)

General Interest Rates and Yields.

Moody's Investors Service publishes a considerable amount of financial data and its publications are accepted and relied upon generally for purposes such as are now being considered. Chart 1 shows Moody's composite bond yield average based on bonds of 120 domestic corporations which carry the four highest bond ratings assigned by Moody's publication. The chart also shows the average

yield for the 30 bonds included in each of the four rating groups, namely, Aaa, Aa, A and Baa. There are not always 120 corporations in Moody's compilation and there are not 120 corporations at this time, principally because of the difficulty of finding industrial bonds of the higher ratings.

Chart 1—Chart 1 reflects the range of bond yield averages since 1920. The composite average yield for all bonds included in the data had reached by the end of 1936 the lowest level recorded since 1920, namely, 3.67 per cent. After rising during 1937 and the early part of 1938 to 4.50 per cent in April 1938, a decline took place which, by August 1939, had carried the composite average down to the 1936 low point.

The month of September witnessed a sharp rise resulting from the outbreak of war in Europe. The composite average moved from 3.67 per cent to 3.95 per cent in that month. Between September 1939 and the year-end, the average declined to the August level.

From December of last year through April of this year the composite average declined from 3.69 per cent to 3.54 per cent. Following the invasion of the Low Countries in May, however, the increase in bond yields brought the average for May to 3.67 per cent, and for June to 3.72 per cent. By August the average had declined to the April level, and for September the composite yield was at a record low point of 3.50 per cent.

Since Chart 1 shows the individual rating group averages from which the composite average is derived, it can be seen that by September 1940 the average yields for bonds of Aaa, Aa and A rating, after advancing about 0.10 per cent in May and June, had also declined to new low levels, these being considerably lower than the levels established in 1936. For example, the low points in 1936 as compared with the yields shown for September 1940, are as follows:

Aaa bonds, 1936—3.10 per cent; September 1940—2.82 per cent;

Aa bonds, 1936—3.28 per cent, September 1940—3.01 per cent;

A bonds, 1936—3.78 per cent, September 1940—3.52 per cent.

On the other hand, the risk factor associated with bonds of Baa rating is reflected by the more pronounced rise in the average yield on such bonds commencing in the latter part of 1937 and culminating in the early part of 1938 than was the case for bonds of higher rating.

The 1936 low point for Baa bonds was 4.52 per cent, the yield subsequently rising to 5.16 per cent in September, 1937, and to 6.47 per cent in April 1938. The yield declined rapidly during the remainder of 1938 to 5.27 per cent in December 1938.

During 1939 the average yield on Baa bonds declined still further but, in December 1939, at 4.92 per cent was still 0.40 per cent above the 1936 low point, in contrast with the experience of bonds of higher grade. The average yield on Baa bonds continued to decline during the first four months of 1940, but in May increased sharply by 0.20 per cent and in June advanced 0.17 per cent, resulting in a rise of 0.37 per cent over the April average.

This rise compares with that of about 0.10 per cent in the average yield for the higher grade bonds in the same two-months period. From June to September, the Baa average reflected a more substantial decline than was recorded for higher grade bonds with the result that the September average of 4.66 per cent was only 0.14 per cent above the 1936 low point, a decline of 0.26 per cent from the average for December 1939.

Also reflected by Chart 1 is the virtual collapse of the bond market which occurred in 1931 and the continuation of an extreme degree of weakness thereafter for the greater part of three years. In this period bonds most severely affected were those regarded as subject to greater investor risk. It will be observed, for example, that while the yields for Baa and A bonds reached 11.63 per cent and 8.5 per cent, respectively, in this period, the highest yield recorded for Aa bonds was 6.60 per cent and for Aaa bonds was only 5.41 per cent.

The data upon which Chart 1 is based appear in Sched-

ule 1 which will be found immediately following the chart. Page 1 of Schedule 1 contains the composite monthly and annual average yields for each year commencing with the year 1920 on bonds of 120 domestic corporations including bonds of the four highest Moody bond rating groups, namely, Aaa, Aa, A and Baa.

Similarly, Page 2 contains the average yield on bonds of Aaa rating, Page 3 on bonds of Aa rating, Page 4 on bonds of A rating and Page 5 on bonds of Baa rating. Each rating group includes, so far as they are available for inclusion, 30 domestic corporation bonds.

A footnote on Page 5 indicates the source from which the data were taken. The lines on the chart can be readily associated with the data contained in the schedule. For example, Page 1 of Schedule 1 shows that the composite yield on bonds of 120 domestic corporations was 4.50 per cent in April 1938, as reflected on Chart 1.

Page 6 describes the mathematical basis of the yield computations. Monthly yield averages are unweighted arithmetic averages of daily yields computed on the basis of closing prices and calculated to maturity dates. For each rating group the average is based on the bonds included in that group and the composite average is the average of the four rating group averages.

Commencing on Page 6 and continuing on Page 7 of Schedule 1 will be found the key to Moody's bond ratings. For example, bonds of Aaa rating are those judged as representing bonds of the best quality, generally referred to as "gilt edge" because they carry the smallest degree of investment risk. Interest payments on such bonds are protected by large or exceptionally stable margins, changes in which are most unlikely to impair the fundamentally strong position of such issues, and principal is secure.

Bonds of Aa rating rank high but lack one characteristic or another of the highest type of bond investment. Together with the Aaa group they comprise what are generally known as high grade bonds. Bonds carrying the A rating possess many favorable investment attributes and are to be considered as higher medium grade obligations. Baa bonds are those considered as lower medium grade ob-

ligations, i. e., they are neither highly protected nor poorly secured. Such bonds, besides lacking outstanding investment characteristics, in fact exhibit speculative characteristics as well.

Pages 8 to 11, inclusive, of Schedule 1 contain lists of the bonds currently used in Moody's bond yield averages according to rating groups. Aaa bonds, grouped according to classification as Industrials, Railroads and Public Utilities are listed on Page 8, Aa bonds are similarly listed on Page 9, A bonds on Page 10 and Baa bonds on Page 11.

It will be noted that the lists of Industrial Aaa and Aa bonds contain fewer than ten bonds, there being only four bonds in the Aaa group, and four in the Aa group. Similarly, there are only five Railroad bonds in the Aaa group. Moody's explanation, as given on Page 6 of Schedule 1, is that it has not been possible since 1933 to find a sufficient number of representative bonds for these rating groups. However, as previously indicated, the averages for these groups are given equal weighting in combining them with other group averages.

Chart 2—The purpose of the next two charts is to show that the trend of bond yields is not an isolated phenomenon but is part of the movement of interest rates in general, as indicated by the broadly similar patterns observed in the trend of interest rates on 4-6 months commercial paper and on 60-90 day time loans, as well as in the yields on U. S. Treasury bonds. In other words, the purpose of these two charts is merely to furnish added data regarding the movement of interest rates as such, and not to offer short-term money rates or yields on Treasury Bonds, as a measure of a proper rate of return.

(Vol. LXXIV, pp. 10805-10811.)

Chart 3—Chart 3 shows the yield on U. S. Treasury Bonds due or callable after twelve years, as computed by the U. S. Treasury Department for the period since 1920. This chart portrays a somewhat similar situation as that shown on Charts 1 and 2, the trend being generally downward in recent years.

The low point for the period 1920-1936 was reached about

the end of 1936 with a yield of 2.51 per cent, as indicated in Schedule 3. Increasing by April 1937 to 2.80 per cent, the yield subsequently declined, reaching a record low of 2.13 per cent in June 1939.

In September, 1939, as in the case of domestic corporation bonds, the yield on U. S. Treasury Bonds reached the highest level of the year, 2.65 per cent, but subsequently declined and for the month of December 1939 was 2.35 per cent. The decline continued in 1940 and in March and April the yield averaged 2.25 per cent. An increase of 0.13 per cent occurred in May 1939, in line with the increase previously noted for corporate bonds in the Aaa, Aa and A groups, but this increase was later cancelled and in August the average again stood at 2.25 per cent. For the month of September, not shown on the chart, the average was 2.18 per cent, and for the week ending October 19, 1940, it was 2.09 per cent, indicating a decline to new low levels.

Undoubtedly the lower yield recorded for Treasury bonds in comparison with Moody's average yield on corporation bonds of Aaa rating may be attributed to the low risk associated with these securities and to the fact that income derived therefrom is in part exempt from taxation.

From the data presented in this section, it is apparent that in recent months interest rates and yields, generally, have reached the lowest levels witnessed in many years; in fact, they probably have not been lower at any time in the history of the country.

Utility Interest Rates and Yields and Recent Financing

This section deals with the cost of money as indicated by bond yields, preferred stock yields, and common stock earnings-price ratios, with particular reference to public utilities.

Chart 4—Chart 4 shows Moody's bond yield averages commencing with the year 1934, based on the bonds of 40 public utilities according to Moody's bond ratings. In contrast with Chart 1, which shows declines in yield below the 1936 level only for domestic corporation bonds of the three highest Moody's rating groups, Aaa, Aa, and A, Chart 4 shows declines below that level through September 1940

for public utility bonds of all four rating groups. The September 1940 yield averages for public utility bonds in the respective rating groups, as shown in Schedule 4, Pages 1 and 2, are as follows:

Aaa—2.74 per cent, Aa—2.88 per cent, A—3.18 per cent, and Baa—3.34 per cent.

Chart 4 is supported by Schedule 4. The companies whose issues are currently used in computing the average yield shown on the chart are listed in Page 3 of the schedule.

It will be noted by inspection of the annual averages shown on Pages 1 and 2 of Schedule 4 that the average yield on public utility bonds in each rating group declined substantially between 1934 and 1939, the comparative yields and declines being as follows:

Aaa—1934 average, 3.92 per cent—1939 average, 2.88 per cent, a decline of 1.04 per cent; Aa—1934 average, 4.66 per cent—1939 average, 3.03 per cent, a decline of 1.63 per cent; A—1934 average, 5.55 per cent—1939 average, 3.52 per cent, a decline of 2.03 per cent; Baa—1934 average, 7.49 per cent—1939 average, 4.50 per cent, a decline of 2.99 per cent.

Relatively, these declines range from 26.5 per cent for Aaa bonds to 40 per cent for Baa bonds, indicating that investors in public utility bonds have more recently been willing to accept a relatively lower rate of compensation than in 1934 in proportion to the degree of risk assumed.

Another method of measuring the willingness of investors to accept relatively less compensation in proportion to the degree of risk assumed is to compare the ratio of the yield on Baa bonds to that on Aaa bonds. Such ratios computed for the years 1934 to 1939, inclusive, and for the month of September 1940 are as follows:

Period	Baa Yield	Aaa Yield	Ratio of Baa to Aaa Yield
Year 1934	7.40 per cent	3.92 per cent	1.91
Year 1935	5.56 per cent	3.52 per cent	1.58
Year 1936	4.67 per cent	3.21 per cent	1.45
Year 1937	5.09 per cent	3.21 per cent	1.59
Year 1938	5.26 per cent	3.03 per cent	1.74
Year 1939	4.50 per cent	2.88 per cent	1.56
Sept. 1940	3.94 per cent	2.74 per cent	1.44

From the foregoing, it appears that in 1934 the yield demanded by investors on Baa bonds was 1.91 times that required on Aaa bonds. The ratio declined to 1.45 in 1936, increased to 1.74 in 1938, and dropped back to 1.56 in 1939.

In September 1940, the ratio stood at approximately the same low level for the period as that recorded in 1936.

Chart 5—Chart 5 shows Moody's bond yield averages for the periods since 1920 based on bonds of 120 domestic corporations classified into three groups, namely, railroads, public utilities and industrials. The general trends reflected in this chart are similar to those described in connection with the previous charts.

Starting from the low point for all groups reached in 1936, the average yields increased until midyear of 1938. The rise in yield for railroad bonds in this period was much more abrupt than in the case of public utilities and industrials and carried the yield on railroad bonds to 5.75 per cent, public utility yields increasing only to 4.11 per cent and industrials to 3.55 per cent.

From these points the trend toward lower yields has continued with minor interruptions for all groups, but only in the case of public utilities and industrials have the yields established new low levels. For example, the August 1939 figures were 3.40 per cent (1936—3.69 per cent) for public utilities and 3.21 per cent (1936—3.37 per cent) for industrials.

Railroad yields in August averaged 4.41 per cent, which was still considerably higher than the 3.95 per cent yield recorded for January 1937, reflecting the greater degree of

risk attaching to railroad securities from the viewpoint of investors. The rise in yields which occurred in September 1939 had been cancelled before the year-end, and subsequently through April 1940 all yields registered further declines, public utility and industrial bond yields falling to the then lowest levels on record, while railroad bond yields still remained 0.38 per cent above the January 1937 low point.

May and June, following the invasion of the low Countries, an abrupt rise in yields of all bonds occurred, but this rise was subsequently cancelled, except in the case of industrial bonds, railroad bond yields declining through September to a level only 0.28 per cent above the previous low point in the period since 1920, while public utility bond yields were established at the lowest level on record. The September 1940 averages, as shown in Schedule 5, Pages 1, 2 and 3, were as follows:

Industrials—3.10 per cent. Public Utilities—3.19 per cent. and Railroads—4.23 per cent.

By inspection of the annual averages shown on Page 2 of Schedule 5, it will be seen that the average yield on 40 public utility bonds declined from 6.30 per cent in 1932 to 4.43 per cent in 1935, and levelled off at approximately 3.90 per cent during the years 1936, 1937, and 1938. For 1939 the average was lower, at 3.48 per cent, than for any year since 1920, while the average for the first nine months of 1940, 3.28 per cent, as well below the 1939 average.

Chart 5 indicates that the experience of the industrial group has been somewhat more favorable than that of the public utilities, especially in recent years, but this may be due in part to the limited number of industrial bond issues available for inclusion in the two highest Moody bond rating groups.

Schedule 5 gives the monthly and annual average yields for the three groups of corporation bonds on which Chart 5 is based, together with a list of the bonds currently included in the groups.

Chart 6—Chart 6 shows annually, for the period since 1921, Moody's weighted averages of yields on newly issued

domestic bonds of industrials, railroads, and utilities. The averages shown are based on yields at offering prices of newly issued bonds, calculated to maturity and weighted by the amounts of all new issues floated in any given classification or period. The classification "utility bonds," which includes bonds of light, power, and gas utilities, consists wholly of operating companies. The yields indicated in Chart 6 are not, of course, representative of bonds of the same companies or issues at any one date or during any given period.

This chart shows a generally downward trend since 1921 for all classes of companies in yields on newly issued bonds. The trend was interrupted in 1929 and 1932, but commencing in 1933 and continuing until about 1936 the downward trend was greatly accelerated. In 1937 and 1938 the yields leveled off somewhat, but in 1939 a substantial decline occurred, particularly in yields on new railroad and industrial bond issues.

The 1939 decline in yield on newly issued light, power, and gas utility bonds was fractional, but nevertheless brought that yield also to the lowest point reached throughout the entire period since 1921. There has been superimposed on Chart 6 from Schedule 10 the average yield on newly issued bonds of electric operating utilities beginning with the year 1935, which shows a somewhat more favorable market for bonds of electric operating utilities than for those of light, power, and gas utilities combined.

The chart indicates that from 1921 through 1932 the market for new utility bonds appears to have been somewhat less favorable than for railroad bonds. In 1933, however, this position was reversed and except in the years 1937 and 1938, utility bonds were marketed from 1933 through 1939 on more favorable terms than railroad bonds.

It also appears that from 1921 through 1938 the market for new utility bond issues was consistently more favorable than for industrial issues. A reversal of this situation occurred in 1939 when the average yield on new utility bond issues was 3.45 per cent, as compared with 3.09 per cent on new industrial issues. In this connection, however, attention is directed to Page 1 of Schedule 10 where it is indi-

ated that in 1939 a substantially larger proportion of electric operating utility bond issues consisted of lower medium grade bonds of Baa rating than was the case in prior years, which would appear to account, at least in part, for the failure of the yield on new utility bond issues to follow the yield on industrial issues in that year.

The rapid decline in the yield on newly issued domestic bonds, particularly noticeable since 1934, suggested that the decline could be attributed not only to the course of the bond market itself but also to the quality of the offerings. This assumption is confirmed by comparison of the average yield for newly issued utility bonds with the average yield on utility bonds then outstanding of the three highest Moody bond rating groups, i. e., Aaa, Aa, and A.

The line superimposed on Chart 6, showing the average annual yield from 1934 to 1939 on 30 utility bonds carrying these Moody ratings, very closely conforms to that showing the yield on newly issued utility bonds, except in 1939 for the reason above noted, and indicates that a very large proportion of the utility bonds offered during that period consisted of higher grade bonds.

Schedule 7—This schedule reflects annual yields on a group of electric operating utility preferred stocks during the period of eleven years from 1929 to 1939, inclusive, based on averages of yearly high and low market quotations. The issues included in this exhibit comprise all electric operating utility preferred stocks shown in Schedule 19 of a Federal Communications Commission publication issued June 15, 1938, for which preferred dividends and prior requirements were earned in excess of 1.50 times in 1938, and for which market quotations for each year in the period 1929-1939 were available. The title of the publication referred to is "The Problem of the 'Rate of Return' in Public Utility Regulation."

Schedule 7 reflects a definite upward trend through 1933 in yields demanded by investors on preferred stocks, and a definite downward trend in the years 1934, 1935 and 1936. After 1936 investors' demands fluctuated within a narrow range at approximately the 1936 level. Expressed in terms of an index based on the 1929 average of the yields on the

16 preferred stocks as equal to 100 per cent, the average yield advanced to 106 in 1931, to 117 in 1932, and to 140 in 1933. In 1934 the average declined to 125, and fell to 103 in 1935. In 1936 the average was about 15 points lower at 88 and, with minor fluctuations in the years 1937 and 1938, stood at 86 in 1939, for which year the average yield demanded by investors was lower than for any other in the 11-year period.

Expressed in terms of per cent yield, the unweighted arithmetic average yield on the 16 preferred stocks increased from 5.74 per cent to 8.04 per cent between 1929 and 1933, declined to 5.10 per cent between 1933 and 1936, and was 5.19 per cent for 1937, 5.27 per cent for 1938 and 4.96 per cent for 1939.

Schedule 7-A—This schedule reflects yields on electric operating utility preferred stocks and number of times preferred dividends and prior requirements are earned based on averages of high and low market quotations for the first nine months of 1940, with earnings coverage based on income for the latest twelve months for which reported.

Schedule 7-A contains a list of 22 preferred stocks and, as indicated in the footnote, includes all electric operating utility preferred stocks shown in Schedule 19 of the previously mentioned publication of the Federal Communications Commission, for which preferred dividends and prior requirements were earned in excess of 1.50 times in 1938.

Examination of this schedule will show that of the 22 preferred stocks listed, two issues were selling to yield from 3.90 per cent to 4.00 per cent to investors, three issues to yield between 4.00 per cent and 4.25 per cent, four issues to yield between 4.25 per cent and 4.50 per cent, four issues to yield from 4.50 per cent to 5.00 per cent, five issues to yield between 5.00 per cent and 5.50 per cent and four issues to yield from 5.50 per cent to 6.02 percent. In no instance did any issue sell on a basis to yield in excess of 6.02 per cent. Twelve of the 22 issues reflected yields of 4.74 per cent or lower on the basis indicated. For eight of these twelve issues, preferred dividends and prior requirements were earned in excess of 2.50 times, and with respect to eight of the issues yielding in excess of 4.74 per cent such requirements were earned less than two times.

The unweighted arithmetic average of yields on the 22 preferred stock issues shown in Schedule 7-A is 4.82 per cent, as compared with 1939 average of 4.96 per cent for the 16 issues shown in Schedule 7. The nine-months average of 4.87 per cent for the 16 issues in Schedule 7 which are also included in Schedule 7-A reflects a continuation in 1940 of a somewhat downward tendency in electric operating utility preferred stock yields.

Schedule 8—This schedule reflects annual earnings-price ratios, that is, the per cent of net earnings per share to market price, on a group of electric operating utility common stocks during the period of eleven years from 1929 to 1939, inclusive, based on averages of yearly high and low market quotations and published annual earnings per share of common stock. The issues included in the exhibit comprise all electric operating utility common stocks shown in Schedule 26 of the previously mentioned publication of the Federal Communications Commission issued June 15, 1938. The stocks listed from such publication include only those common stocks which are held by the public to the extent of at least 5 per cent of the number of shares outstanding.

Schedule 8 reveals that, on the average, from 1929 through 1932 there was a definite upward trend in common stock earnings-price ratios on these common stocks. In other words, during this period, investors demanded that increasing earnings be available for common stock per dollar of market price. In terms of an unweighted arithmetic average, the average earnings-price ratio for the group of 14 common stocks was 4.06 per cent in 1929, and increased in the three succeeding years, rising to 4.59 per cent in 1930, to 5.95 per cent in 1931, and to 7.74 per cent in 1932, the latter ratio being the highest reflected in any year during the eleven-year period.

In 1933, investors' demands abated somewhat, the average earnings-price ratio declining to 7.02 per cent. In 1934 the ratio rose to 7.57 per cent, but declined to 7.32 per cent in 1935 and to 5.89 per cent in 1936. In 1937 and 1938 the ratio advanced to 6.77 per cent and 7.42 per cent, respectively, but in 1939 declined again and was 7.04 per cent for that year.

It will be observed that during the eleven-year period the average did not exceed eight per cent in any year. Aside from the two years 1929 and 1930 for which the average was less than five per cent, there were two years for which the average was less than six per cent, one year 1937, for which it was 6.77 per cent, and five years for which the average was above 7 per cent, the highest average, as above stated, being 7.74 per cent in 1932. The simple average ratio for the last four years of the period was 6.78 per cent.

Schedule 8-A—This schedule reflects earnings-price ratios of electric operating utility common stocks and the per cent of gross income available for common stock based on averages of high and low market quotations for the first nine months of 1940, and on twelve-months' earnings per share as published in the latest quarterly reports.

Schedule 8-A contains a list of 14 common stocks and, as indicated in the footnote, includes all electric operating utility common stocks listed in Schedule 26 of the previously mentioned publication of the Federal Communications Commission, of which at least five per cent of the issue was outstanding in the hands of the public.

Inspection of data contained in this schedule will show that the earnings-price ratios of the 14 common stocks listed were as follows: one at 4.98 per cent, one at 5.65 per cent, three from 6.00 per cent to 7.00 per cent, five between 7.00 per cent and 7.75 per cent, two at 8.00 per cent, one at 8.67 per cent, and one at 9.31 per cent. Ten of the fourteen issues reflected earnings-price ratios of less than 7.75 per cent on the basis indicated. It will be noted that for three issues selling on a basis of 8 per cent or more the proportion of gross income available for common stock falls below 50 per cent.

The unweighted arithmetic average of the earnings-price ratios of the fourteen common-stock issues shown in Schedule 8-A is 7.29 per cent, as compared with 1939 average of 7.04 per cent and the 1938 average of 7.42 per cent for the same issues shown in Schedule 8.

Schedule 9—Schedule 9 presents annual information on the volume of all corporate financing in the United States since 1934, and the portion thereof representing financing

by public utilities, as compiled by The Commercial & Financial Chronicle. The total volume of financing in each year is segregated to show the portions representing new capital and refunding issues, and subdivisions of the amounts representing new capital, refunding and total corporate financing disclose the proportionate amounts of long-term bonds and notes, short-term bonds and notes, preferred stock and common stock issues comprising the total, both for all corporate issues in the United States and for the portion thereof representing security issues of public utilities.

The total amount of new corporate issues in the United States during 1934 was 491 million dollars, for 1935—2,267 millions, for 1936—4,632 millions, for 1937—2,434 millions, for 1938—2,139 millions, for 1939—2,479 millions, and for the first nine months of 1940—1,674 millions, the total for the entire period being 15,816 millions. Of this total, 7,596 millions, or 48 per cent, represented financing by public utilities. By years the proportions of the total of public utility security issues to all corporate issues in the United States were: 1934—32.3 per cent, 1935—56.6 per cent, 1936—45.9 per cent, 1937—34.0 per cent, 1938—57.2 per cent, 1939—60.5 per cent, and 1940 through September—39.4 per cent.

In this connection, attention is directed to Note 3 on Page 4 of Schedule 9 which indicates that The Commercial and Financial Chronicle, which is the source of the above data on corporate financing, does not classify non-retailing natural gas pipe line companies as public utilities. Securities issued by such natural gas companies are reported by that publication under the heading "Miscellaneous."

The proportion of the total amount of all corporate financing during the period from 1934 to date represented by new capital was 29.8 per cents. New capital accounted for 11.3 per cent of all public utility financing during the same period. By new capital, in this connection, is meant capital obtained for the purpose of additions to plant and property or to increase working capital. By refunding is meant the issuance of new securities for the purpose of retiring existing obligations at or before maturity, or of effecting reductions in dividend rates on preferred stocks.

New capital raised by corporations in the United States during the period from 1934 to date aggregated 4,710 million dollars of which public utility issues accounted for 855 millions, or 18.2 per cent. Of this 855 millions of new capital raised by public utilities, 94.3 per cent was represented by bonds and notes; 4.7 per cent by preferred stocks, and 1.0 per cent by common stocks, whereas the corresponding percentages of new capital obtained from all corporate issues were, for bond and notes—76.1 per cent, for preferred stocks—10.2 per cent, and for common stocks—13.7 per cent.

The total amount of all corporate issues for refunding purposes during the same period was 11,106 million dollars of which public utility issues accounted for 6,741 millions, or 60.7 per cent. This clearly demonstrates that public utilities have taken advantage of the favorable market in recent years to conduct large-scale refunding operations. In 1939 public utility issues accounted for 70 per cent of all corporate securities issued for refunding purposes. In 1938 the percentage accounted for by public utilities was somewhat higher, at 75 per cent, but was based on public utility refunding issues aggregating 950 millions, as compared with 1,261 millions in 1939.

Public utility financing during the period since 1934 accounted for the following proportions of all corporate issues: long-term bonds and notes, maturing later than five years from date of issue—7,007 millions, or 52.7 per cent of all long-term corporate issues; short-term bonds and notes—158 millions, or 32.5 per cent of all short-term corporate issues; preferred stocks—412 millions, or 32.4 per cent of all preferred stock issues; and common stocks—20 millions, or 2.7 per cent of all common stock issues.

As previously stated, public utility issues of all kinds accounted for 48 per cent of all corporate issues over the entire period under discussion. However, during the years 1937 and 1938 public utility financing accounted for very nearly 60 per cent of all corporate financing in the United States.

Analysis of the various types of securities issued by public utilities during the period covered by Schedule 9 reveals that there were no capital stock issues sold in 1934. Small

amounts of preferred and common stock representing new capital were sold in 1935, approximately \$4,500,000 of preferred but no common stock issues representing new capital were sold in 1936, approximately \$3,700,000 of preferred stock issues and \$700,000 of common stock issues representing new capital were sold in 1937; no common stock issues were sold in 1938 and only \$300,000 was raised from the sale of common stock in 1939.

In contrast with this record, Page 5 of Schedule 9 reflects the sale of approximately \$6,600,000 of common stock and \$18,500,000 of preferred stock representing new capital in the first nine months of 1940. The combined total of such issues in 1940 is somewhat in excess of the aggregate of all preferred and common stock issued for new capital purposes during the entire preceding six-year period.

Schedule 10—This schedule contains a summary of all known electric operating utility bond issues, other than bonds and debentures having serial maturities, sold during the years 1935 to 1939, inclusive, and shows that during this period 276 such bond issues were sold aggregating in excess of four and one-half billion dollars. The summary on Page 1 is presented by years and discloses the following weighted average yields on newly issued electric operating utility bonds based on offering prices to purchasers: 1935—3.81 per cent, 1936—3.48 per cent, 1937—3.63 per cent, 1938—3.43 per cent, and 1939—also 3.43 per cent. The weighted average yield on all issues sold during the five-year period irrespective of rating, was 3.55 per cent.

Page 2 of Schedule 10 reflects average yields on the same bond issues classified according to ratings assigned by Moody's publications. It is there shown that 104 issues, or approximately 38 per cent of the total number sold during the five-year period, represented bonds of Aaa and Aa rating and 91 issues represented bonds of A and Baa rating. However, it will be observed that in 1939 only one Aaa issue, and three Aa issues were sold in contrast with the larger number of such issues sold in previous years. On the other hand, about one-fourth of the 49 issues sold in 1939 represented bonds of Baa rating and one-fifth represented bonds of A rating, bonds of these two rating groups thus accounting for approximately one-half of the number of electric operating utility bond issues sold in 1939.

The summary on Page 2 of Schedule 10 also discloses that average yields to purchasers have declined since 1936. With respect to bonds carrying the four highest Moody's ratings, yields on issues sold in 1939 were lower than in any other year of the five-year period, such yields being as follows: Aaa—2.75 per cent, Aa—3.08 per cent, A—3.31 per cent, and Baa—3.87 per cent.

Of the 276 issues included in the summary for the five-year period, 74 were issues to which no rating was assigned by Moody's publications. The majority of such issues represented bonds which were privately sold. No rating is ordinarily assigned to bonds which are sold privately inasmuch as there is usually no trading in such issues.

Schedule 10-A—This schedule contains certain details in connection with offerings of electric operating utility bond issues sold during the year 1939. Such offerings aggregated approximately \$800,000,000 in principal amount. The weighted average yield to purchasers of these issues was 3.43 per cent.

On Page 1 will be noted an issue of Public Service Company of Colorado, 3-1/2 per cent first mortgage bonds, due 1964, Rating A, in the principal amount of \$40,000,000, which were offered to the public in November 1939, at 102, resulting in a yield to maturity of 3.38 per cent.

There is shown on Page 2 the ten-year 4 per cent Debenture issue of that company, Rating Baa, in the principal amount of \$12,500,000, which was also offered to the public in November 1939 at 102, the yield to maturity in this instance being 3.76 per cent.

Schedule 10-B—Schedule 10-B contains a list of all electric operating utility bond issues sold during the first nine months of 1940. The aggregate principal amount of such issues was \$419,337,300. There were 40 issues sold during this period, including one Aaa issue sold in July on a 2.73 per cent yield basis, four Aa issues at an average yield of 2.93 per cent, six A issues sold to yield an average of 3.17 per cent, five Baa issues on which the average yield was 3.81 per cent, and two Ba issues sold at an average yield of 4.37 per cent. Twenty-two issues, to which no rating

was assigned, were sold in this period of which all but one were sold privately. The weighted average yield of all issues sold was 3.29 per cent, which figure was somewhat lower than the average of 3.43 per cent on newly issued electric operating utility bonds sold during the years 1938 and 1939.

Schedule 11—Schedule 11 presents a compilation of all known preferred stock issues of electric operating utility companies sold in the period 1935-1939, showing the cost of money to issuing companies and yields to purchasers. The average yield to purchasers of such issues was 4.38 per cent for 1935, 4.62 per cent for 1936, 4.63 per cent for 1937, 4.85 per cent for 1938, and 4.99 per cent for 1939. Yields on individual issues in excess of \$1,000,000 ranged from 4.09 per cent to 5.95 per cent. For the entire period, the average yield on all issues sold was 4.64 per cent.

Comparison with Schedule 10 indicates the relatively low proportion of preferred stock to bonds issued by electric utilities during the five-year period, new issues of bonds and preferred stock having been sold in proportions of about 25 to 1. However, it should not be inferred that such a relationship exists between outstanding bonds and preferred stocks in the capital structure of electric operating utilities.

For example, in the volume entitled "Statistics of Electric Utilities in the United States—1938," published by the Federal Power Commission, it is shown on Page IX that for 393 Class A and Class B privately owned electric utilities, long-term debt constituted 52.2 per cent of the total amount of securities outstanding as of December 31, 1938, while preferred stocks comprised 15.4 per cent of the total. In addition, common stocks accounted for 31.6 per cent of the securities outstanding and the remainder, or 0.8 per cent, consisted of premiums, assessments, and so forth, on capital stock.

Schedule 11 shows for each issue the net proceeds per share realized by the issuing company from the sale of preferred stock as well as the offering price per share to the public. In addition, it shows the per cent relationship of annual dividends both to net proceeds and to price paid by public.

For example, a 4½ per cent preferred stock issue of Wisconsin Michigan Power Company was sold in December 1939 at par of \$100 per share to yield 4.50 per cent to purchasers. The company realized \$96.11 per share as the net proceeds from the sale after meeting all expenses of floating the issue, the dividend requirement of \$4.50 per share representing an annual cost to the company for preferred stock capital of 4.68 per cent ($\$4.50 \div \96.11). The expenses of floating the issue therefore resulted in increasing the annual preferred stock expense of the company over the annual yield to purchasers by 0.18 per cent. Stated another way, the yield to purchasers, 4.50 per cent, plus cost of financing, 0.18 per cent, equals the annual cost to the company for preferred stock capital, 4.68 per cent.

Inspection of Schedule 14 reveals that the weighted average cost of financing in connection with electric operating utility preferred stock issues was 0.12 per cent in 1935 (4.50 per cent—4.38 per cent), 0.15 per cent in 1936 (4.77 per cent—4.62 per cent), 0.15 per cent in 1937 (4.78 per cent—4.63 per cent), 0.19 per cent in 1938 (5.04 per cent—4.85 per cent), and 0.22 per cent in 1939 (5.21 per cent—4.99 per cent).

Over the entire period 1935-1939, the weighted average cost of financing was 0.15 per cent (4.79 per cent—4.64 per cent). In 1939 the cost of financing for four preferred stock issues carrying a 4½ per cent dividend rate ranged from 0.07 per cent (Consolidated Gas Electric Light & Power Co. of Baltimore) to 0.19 per cent (Wisconsin Gas & Electric Co.). These four issues were sold at par or better to yield from 4.00 per cent to 4.50 per cent to purchasers.

Schedule 11-A—This schedule contains details of all known electric operating utility preferred stock issues sold to the public in the first nine months of 1940. The aggregate offering price of such issues was approximately \$34,000,000, and the weighted average yield to purchasers was 4.41 per cent, a decline of 0.58 per cent from the corresponding average for the year 1939. It will be noted that a 4½ per cent issue of Consolidated Gas Electric Light & Power Co. of Baltimore was sold in August at four points above par to yield 3.85 per cent to purchasers.

Schedule 12—Schedule 12 contains details of all known offerings of electric operating utility common stocks during the period from 1935 through September 1940. Of the five issues listed in this schedule, three were offered to the public during March and April of the present year, the other two issues representing primarily offerings to stockholders in 1935 and 1937, respectively.

In contrast with Schedule 9, Page 5, which reflects the sale of \$6,622,520 of new issues of common stock in the months of January to September 1940, Schedule 12 reflects common stock sales amounting to approximately \$28,000,000 during the same period. By reference to the footnotes in Schedule 12 it will be seen that only the issue of West Penn Power Company (\$4,320,000), and 68,855 shares of the Indianapolis Power & Light Company issue (\$1,652,520) fall within the category of new issues. The difference between the sum of the foregoing amounts, \$5,972,520, and the above total of \$6,622,520 for common stock issues in 1940, is represented by an issue of common stock of Bridgeport Hydraulic Company, a non-electric utility, amounting to \$650,000.

For each issue listed in Schedule 12 there are given the name of the issuing company, the offering date, the number of shares offered, the price to public in dollars per share and the aggregate amount paid by the public, together with the amount of the issuing company's annual earnings per share of common stock for the year preceding the offering date, the per cent of such earnings per share to offering price, and the per cent of gross income available for common stock in the years for which earnings per share are given.

The first issue in Schedule 12 is that of Boston Edison Company (formerly Edison Electric Illuminating Co. of Boston) comprising 82,289 shares of common stock offered to stockholders in the latter part of 1935 at a subscription price of \$150 per share. Approximately 94 per cent of the shares offered were taken up by stockholders and the remaining shares were offered to the public at a price of \$166 per share. The proceeds were used to retire a portion of the company's outstanding indebtedness. On the basis of earnings per share recorded for the years 1934

and 1935, the average offering price resulted in an earnings-price ratio of between 6.25 per cent and 6.43 per cent. The proportion of the company's gross income available for common stock was 56.85 per cent in 1934 and 61.68 per cent in 1935.

The second issue in Schedule 12 represents an offering to stockholders of Tampa Electric Company in November 1937 to purchase 31,497 shares of the company's common stock at a subscription price of \$20 per share. The stockholders subscribed to 30,712 shares or approximately 97.5 per cent of the shares offered. On the basis of earnings per share recorded for 1936 and 1937, the offering price of \$20 per share resulted in an earnings-price ratio of between 11.50 per cent and 11.65 per cent. In this connection it should be noted that the range of market quotations for Tampa Electric Company common stock in 1937 was 25-1/4—41. It is thus apparent that the price of \$20 per share paid by stockholders was well below the then current market price.

The next three offerings listed in Schedule 12 were made in March and April of the present year. In March 1940 a block of 200,000 shares of Commonwealth Edison Company stock was offered to the public. It was reported that the offering price of 32-3/4 was based on the closing price for the stock on the New York Stock Exchange on March 6, 1940.

It is of interest to note that the price range on Commonwealth Edison Company stock from January 1 to March 6, 1940, was 30-7/8—32-5/8. Accordingly, it may be seen that the offering price was within one-quarter of a point of the highest quotation recorded in 1940 prior to the offering date.

A footnote in Schedule 12 relative to this sale indicates that the stock was offered by a syndicate headed by Dillon, Read & Co. which acquired the shares offered upon conversion of approximately \$5,000,000 principal amount of Commonwealth Edison Company convertible debentures purchased from Continental Illinois National Bank and Trust Company of Chicago (each \$100 of debenture being convertible into four common shares). The 200,000 shares

so offered to the public did not therefore constitute a new issue of securities in the sense that the offering was initiated by Commonwealth Edison Company as a sale of securities to the public. On the basis of 1939 earnings of \$2.43 per share, the offering price of 32-3/8 resulted in an earnings-price ratio of 7.51 per cent. The proportion of the company's gross income available for common stock in 1939 was 61.69 per cent.

In April 1940, 714,835 common shares of Indianapolis Power & Light Company were offered to the public at a price of \$24 per share. Of this number, 645,980 shares represented previously issued common stock which had been held by the Trustee of Utilities Power & Light Corporation, former parent company. The remaining 68,855 shares represented new financing by Indianapolis Power & Light Company, the proceeds from which constituted new capital. Based on 1939 earnings of \$2.05 per share, the offering price of 27 resulted in an earnings-price ratio of 8.54 per cent. The proportion of the company's gross income available for common stock in 1939 was 33.95 per cent. In conjunction with its offering of common stock Indianapolis Power & Light Company also sold privately an issue of 2,500 shares of 6 per cent cumulative preferred stock as indicated in Schedule 41-A.

West Penn Power Company offered for sale to the public in April 1940 an issue of 160,000 shares of common stock representing new capital. The shares were sold at 27, which price, on the basis of 1939 earnings of \$1.62 per share of common stock, resulted in an earnings-price ratio of 6.00 per cent. The proportion of the company's gross income available for common stock in 1939 was 52.85 per cent. In the same month the company offered publicly its first mortgage 3 per cent bonds, Series K, due 1970, Rating Aa, in the principal amount of \$3,500,000 at a price of 104-1/2 to yield 2.78 per cent to purchasers, as indicated in Schedule 10-B.

Economic Conditions.

Chart 7—Chart 7 shows the range of the composite wholesale commodity price index of the U. S. Bureau of Labor Statistics over the period since 1920, as well as the whole-

sale price indexes for farm products, foods, and industrial products.

Chart 7 clearly portrays the severe decline in prices which started in 1929 and reached a record low point for the period in 1933. It will also be seen that from March 1933 to March 1937 prices rose steadily, with minor interruptions, the composite index rising from 60 per cent to 88 per cent of the 1926-level during this period. Subsequent to 1937, there was a gradual but steady decline in wholesale prices, with August 1939 indexes at the lowest levels since 1937.

However, in September 1939, coincident with the outbreak of war in Europe, all indexes advanced sharply. It is of interest to note that wholesale prices of farm products and foods advanced to a much greater extent than prices of industrial products, as indicated below:

	September 1939	August 1939	Net Increase
All Commodities	79.1	75.0	4.1
Farm Products	68.7	61.0	7.7
Foods	75.1	67.2	7.9
Industrial Products	82.1	80.1	2.0

Although the indexes for other commodities registered declines immediately following September 1939, the index for industrial products continued to rise for several months before the upward trend was checked.

From the end of 1939 through August 1940 the index for all commodities registered a net decline of 1.8 per cent, more than half of this decline having occurred since the end of May. The net decline in wholesale prices during the first eight months of 1940 was uniformly distributed among the three classes of commodities. However, fluctuations in prices among the individual commodity groups were wider than those reflected in the combined index.

The fluctuations in farm products prices were wider than in the case of foods and industrial products. From May through August, the farm products index declined from 67.9 to 65.6, or 2.3 per cent; the foods index from 71.4 to

70.1, or 1.3 per cent, and the industrial products index from 82.5 to 82.0, or 0.5 per cent.

Although the trend of wholesale commodity prices has been generally downward since September 1939, prices of the various commodity groups in August 1940 were still somewhat above the August 1939 levels, as disclosed in the following tabulation:

	August 1939	August 1940
All Commodities	75.0	77.4
Farm Products	61.0	65.6
Foods	67.2	70.1
Industrial Products	80.1	82.0

There have been some fluctuations in prices since August 1940, latest figures indicating that for the week ended October 5, the combined index was 77.8, with farm products at 65.5, foods at 70.7, and industrial products at 82.9.

(Vol. LXXIV, pp. 10813-10843.)

Chart 12—Chart 12 reflects the trend of corporate earnings, that is, net earnings available for preferred and common stock, based on earnings indexes computed by Standard Statistics Company for 13 utilities, 117 industrials and all Class 1 Railroads.

From this chart it may be seen that the trend of utility earnings has not been subject to very sharp fluctuations as in the case of industrials and railroads. While the earnings indexes for the latter two groups dropped within less than four years from peaks of 140 and 120, respectively, in the latter part of 1929, down to below-zero levels indicating substantial deficits in 1933, the reduction in public utility earnings in the same period is indicated by a decline in the earnings index from 140 to 90 (base year 1926 = 100).

In all three corporate groups there was a decline in earnings commencing in the latter part of 1937, but the decline in public utility earnings was much less pronounced. It will be noted that an upward trend in net earnings was maintained by all three groups throughout the year 1939, with the result that 1939 earnings exceeded those for 1938. Actually, utility and railroad earnings for 1939 almost

equalled the 1937 calendar-year levels, but industrial earnings still remained approximately 30 per cent below the 1937 level.

On the basis of estimated earnings for the nine months ended September 1940, as published by Standard Statistics Company, the average level of earnings for the twelve months ended September 1940 were considerably above the level for the calendar year 1939. The indexes for the year ended in September, as shown in Schedule 18, are as follows:

Public Utilities — 134.3; Industrials — 102.2; Railroads — 26.5. It will be noted that industrial earnings, at 102.2, were slightly below the 1937 level of 106.1, while utility and railroad earnings for the year ended September 1940 were at a somewhat higher level than in 1937.

It is of interest to note the average earnings indexes for the ten-year period 1930-1939 of the three groups of companies, which are as follows: Public Utility—110.5; Industrials—56.1; Railroads—10.0. In each instance the earnings index is compared with 1926 calendar-year earnings as equal to 100.

(Vol. LXXIV, pp. 10854-10855.)

Idle Money Factors:

The data in this section are presented for the purpose of showing the present situation with respect to the volume of idle investment funds and the factors contributing to the growth of such funds in recent years.

Schedule 26—This schedule reflects the total amount of funds carried by member banks of the Federal Reserve System in their reserve balances with the twelve Federal Reserve Banks, together with the portion thereof representing "required" reserves and "excess" reserves, as of the close of each year commencing with 1922.

Required reserves are funds which member banks are required by law to keep on deposit with the Federal Reserve Banks as reserves against deposits made with the member banks by their own customers. Member banks may carry balances with the Federal Reserve Banks in excess of their

required reserves, such excess balances constituting what are known as excess reserves.

Changes in reserve requirements since June 21, 1917 are shown on Page 2 of Schedule 26. Reserve requirements on demand deposits of member banks vary according to classes of banks. Member banks are classified into three groups: central reserve city banks, reserve city banks, and country banks. Central reserve city banks are member banks located in New York City and Chicago, reserve city banks are member banks in sixty other cities of lesser size, and country banks are member banks located elsewhere. It will be noted that reserve requirements on time deposits are uniform for all member banks, while there are important variations among classes of banks in required reserves based on demand deposits.

It will be noted that in the early years of the period the total reserve balances were not subject to marked fluctuation and excess reserve balances were comparatively small in relation to total reserves, some years in fact reflecting deficiencies in required reserves. This was the situation prevailing generally prior to 1931. In that year total reserves reached their lowest level following 1923 at 1961 millions of dollars. In the following two years the reserves increased to 2,729 millions, but the increases in total reserves were reflected by increases in excess reserves which, at the end of 1933, were higher than those shown for any previous year.

From 1933 to 1935 total reserves more than doubled and excess reserves increased by approximately two billion dollars. Reserve balances continued to increase in 1936 but due to an increase in reserve requirements in August of that year excess reserves decreased 866 millions despite an increase of approximately a billion dollars in total reserves. The increases in reserve requirements in March and May 1937 effected a still further reduction of 772 millions in excess reserves, although total reserves increased about 400 millions in that year.

In April 1938 reserve requirements were reduced to approximately those established in March 1937 and thereafter, with no changes in reserve requirements, total reserves continued to increase to a level in excess of 13 1/2 billion

dollars in 1940. Required reserves have increased from 5,15 to 7,058 millions since 1937, but excess reserves have increased by 5,400 millions to an unprecedented total of over 61 billion dollars, the figure at September 25, 1940 being 6,645 millions.

Schedule 27—The purpose of this schedule is to set out the factors which supply member bank reserve funds and those which use such funds in such manner as to show the various changes which have accounted for the rise in member bank reserve balances in the Federal Reserve Banks between June 1929 and September 1940.

The schedule shows that the factors supplying funds for the building up of member bank reserve balances are increases in outstanding Federal Reserve Bank credit, increases in the monetary gold stock, and increases in U. S. Treasury currency outstanding. Decreases in these items operate to decrease member bank reserve balances. Federal Reserve Bank credit consists of bills discounted for or advances made to member banks, bills bought in the open market, holdings of U. S. Government securities, and other items such as industrial advances made under Section 13b of the Federal Reserve Act.

On the other hand, the factors using or drawing upon member bank reserve balances are increases in currency in circulation, in U. S. Treasury cash holdings, in U. S. Treasury deposits with Federal Reserve Banks, in non-member bank deposits with Federal Reserve Banks and in other Federal Reserve accounts. Decreases in these items operate to increase member bank reserve balances. The item "other Federal Reserve accounts" consists of the sum of paid-in capital, surplus, other capital accounts, and all other liabilities (excluding deposits and Federal Reserve notes in circulation), less bank premises and all other assets (excluding gold certificates, cash, and so forth, on hand and holdings of bills discounted, U. S. Government securities, and so forth).

Inspection of Schedule 27 will show that the net effect of changes in these factors between June 1929 and September 1940 has been an increase of 11,347 million dollars in member bank reserve balances with the Federal Reserve Banks. With respect to such increase in member bank

reserve balances, it is shown that required reserves increased by 4,725 million dollars and excess reserves increased by 6,622 million dollars.

It is apparent from inspection of Schedule 27 that the most important factor contributing to the increase in member bank reserve balances has been the increase in the monetary gold stock. From approximately 4 billion dollars in June 1929 the gold stock had increased to 21 billion dollars in September 1940, a growth of over 17 billion dollars during the eleven-year period.

Analysis of the growth in the gold stock reveals that approximately 13 billion dollars of the increase has originated since 1934. Data available through September 1940, up to which time the increase in the gold stock since 1934 amounted to approximately 13 billion dollars, indicate that about half of this increase was accounted for by the net movement of capital to this country from foreign countries, not including over 4 billion dollars of gold imports arising from unaccounted-for transactions. The remainder of the increase was accounted for principally by favorable balances of trade and services with foreign countries and domestic gold production, which were offset to some extent by net imports of silver.

Schedule 28—This schedule shows comparative figures for all years since 1923 on total deposits and total loans and investments of all banks in the United States as contained in annual and monthly publications of the Board of Governors of the Federal Reserve System. Data are shown separately for non-member banks and member banks of the Federal Reserve System.

The data on deposits reflect an increase of approximately seven billion dollars in total deposits, exclusive of interbank deposits, from June 1929 to June 1940, whereas the comparable figures on loans and investments indicate a decrease during the same interval of about seven billion dollars. The comparison reflects a net increase in uninvested funds during the eleven-year period of around fourteen billion dollars for all banks in the United States.

For member banks of the Federal Reserve System the increase in deposits during the eleven-year period was about ten billion dollars and the decrease in loans and

investments amounted to approximately one billion dollars, indicating a net increase of around eleven billion dollars in uninvested funds of member banks during the period. This amount is seen to correspond closely with the increase in member bank reserve balances between June 1929 and September 1940 shown in Schedule 27. (A comparison with June 1940 member bank reserve balances would give substantially the same result inasmuch as the June reserve balances did not exceed the September balances by more than twenty million dollars.)

Because of reserve requirements imposed upon member banks by law, it is evident from Schedule 27 that they are restricted in the use of reserve balances for expansion of loans and investments to that portion thereof representing excess or idle reserves. These excess reserves, as above stated, amounted to 6,645 million dollars at September 25, 1940. By reference to Page 2 of Schedule 26, however, it is apparent that loans and investments could be expanded several times the amount of current excess reserves before the latter would be absorbed into required reserves under operation of current reserve requirements. This possibility arises from the fact that expansion in loans and investments by the member banks considered as a whole would give rise to increased deposits, unless there are offsetting influences, whereas the banks would be required to maintain reserves against such increased deposits only to the extent of the required percentages shown in Schedule 26.

From the data presented in this section, it may be seen that opportunities for investment, because of the growth in the volume of idle funds, have been more limited in the past few years than formerly, particularly in view of the fact that since the beginning of 1934, as reflected in Schedule 9, more than two-thirds of all corporate financing in the United States has been for refunding purposes. This situation with respect to idle funds has been reflected in the declining level of interest rates during the period since 1934.

(Vol. LXXIV, pp. 10866-10872.)

Rate of Return Study—Part II.

As previously stated, Part II of the rate of return study contains some general statistics of the natural gas industry

and presents certain facts with respect to the ownership, issuance, prices and yields of securities of natural gas pipeline companies. The statistical data are contained in Schedule 1 to 4, inclusive, and Charts 1 to 3, inclusive, as listed in the Table of Contents. The data pertaining to securities of natural gas pipeline companies are contained in Schedule 5, together with its underlying Schedules 5-A, 5-B, 5-C, 5-D, 5-E, 5-F, and 5-G, and in Schedule 6. Chart 4 and Schedule 7 contains information respecting the corporate affiliations of the companies involved in the present proceedings, and recent financing by companies affiliated therewith.

Operating and Financial Statistics of the Natural Gas Industry: Schedule 1.

Revenues from Sales to Customers. Schedule 1 portrays the growth of the distributing end of the natural gas industry. It shows revenues, volume of gas sales, and number of customers by years from 1929 to 1939, both inclusive, as taken from Statistical Bulletin No. 41, October, 1940, published by the American Gas Association under the title "Annual Statistics of the Natural Gas Industry in 1939." The data on revenues, gas sales and customers are set forth under separate captions in the upper, middle, and lower portions of the schedule.

As indicated in the footnote, the figures do not include natural gas used in field operations and in the manufacture of carbon black or gas used by distributing companies in the conduct of their own operations. Furthermore, the statistics do not include data for companies selling mixed manufactured and natural gas.

By referring to the upper section of the schedule, it will be seen that during the eleven-year period revenues increased from 376 million to 448 million dollars, or by approximately 19 per cent. With the general falling off of business in 1938, revenues declined some 28 million dollars below the 1937 level but in 1939 they increased approximately 33 million dollars and exceeded 1937 revenues by over 5 million dollars. Following 1929, revenues increased somewhat in 1930; fell off in 1931, 1932 and 1933 and recovered in 1934, each year thereafter except 1938 reflecting a substantial increase over the previous year. According to the latest

report of the American Gas Association, revenues for the first seven months of 1940 have reflected a substantial increase over the revenues for the same period in 1939.

The classification of revenues shown in Schedule 1 reveals that revenues derived from sales to domestic consumers, including natural gas sold for househeating purposes, constitute substantially more than half of the total revenues reported. In 1929 such revenues amounted to \$223,000,000 and, while falling off to the extent of 5 percent at the low point of the depression, recovered rapidly and were \$32,000,000 higher in 1939 than in 1929.

Commercial revenues showed steady improvement each year during the eleven-year period, except in 1933 and 1938, increasing from \$32,000,000 in 1929 to over \$50,000,000 in 1939, a gain of over fifty per cent.

Revenues from industrial sales, including natural gas used as fuel by electric utilities, amounted to \$120,000,000 in 1929. During the depression years, revenues from this source declined to \$75,000,000 in 1932, but recovered in 1933 and by 1937 were \$26,000,000 higher than in 1929. In 1938 revenues from industrial and electric utility consumers amounted to \$126,000,000 off \$20,000,000 from 1937, but in 1939 recovered again to \$142,000,000 which amount, however, was still \$5,000,000 below the 1937 total. According to the latest report of the American Gas Association, the revenues for industrial and electric generation consumers for the first seven months of 1940 exceeded the revenues for the same period in 1939 by over \$6,000,000.

Average Annual Revenue per M. C. F. of Gas Sales: The average annual revenue per M.C.F. of gas sold amounted to 38 cents in 1929, was 41.1 cents in 1932, 33.7 cents in 1937, 34.3 cents in 1938, and 33.8 cents in 1939, a net decrease of 4.2 cents since 1929.

The average revenue from domestic sales was 66.7 cents in 1929 and, after reaching 71.1 cents in 1932 and 1933, gradually declined to 68.6 cents in 1939, a net increase of 1.9 cents per M.C.F. since 1929.

The average revenue per M.C.F. of gas sold to commercial consumers has been following a steadily downward trend since 1929 and declined from 56.5 cents in 1929 to 46.1 cents in 1939, a net decrease of 9.4 cents per M.C.F. since 1929.

The average for industrial and electric utility sales has declined from 20.1 cents per M.C.F. in 1929 to 16.9 cents in 1939, a decrease of 3.2 cents, the 1939 average being almost one cent higher than the average of 16.0 cents for 1934.

Gas Sales to Consumers (M. C. F.). Total gas sales reported for 1929 aggregated 991 million M.C.F. In 1932, sales reached a low point of 834 million M.C.F. for the eleven-year period. Subsequent years through 1937 witnessed steady improvement and the 1937 total was 1314 million M.C.F., a decline of about 104 million M.C.F. taking place in 1938, but during 1939 the total again reached a new level of 1,328 million M.C.F. The bulk of the large increase of 337 million M.C.F. in volume of sales between 1929 and 1939 was brought about by increased sales to industrial and commercial consumers. Commercial consumption increased from 58 to 109 million M.C.F. during the period and industrial consumption increased from 597 to 846 million M.C.F., while domestic consumption increased from 335 million M.C.F. in 1929 to 373 million M.C.F. in 1939. About 85 percent of the increase in total gas sales in 1939 over 1938 was attributable to the increase in industrial consumption. Fluctuations in industrial consumption normally would tend to conform to changes in economic conditions. However, upon comparison with the fluctuations reflected in the Federal Reserve Board's index of industrial production, it was found that, using an index with 1929 as the base year in each case, industrial consumption did not fall during the depression years to the lowest level reached by the index of gas sales to industrial and electric utility consumers has been at a substantially higher level than the index of industrial production. This situation would appear to be accounted for in large part by the expansion in number of industrial customers since 1929, such expansion being indicated by the increase from 22,000 customers in 1929 to 43,000 in 1939.

Average Annual Gas Sales (M.C.F.) per Customer. Average annual sales in M.C.F. per customer are based on the number of customers at the end of each year.

Sales to domestic consumers declined during the period as a whole, the average M.C.F. per customer per year being 60.5 in 1929 and 54.3 in 1939. However, the low point was 51.3 in 1934 and there was slight increases in 1935, 1936 and

1937, as well as in 1939, although in the latter year the average was still slightly below the 1937 figure.

The average consumption per commercial customer was 175.6 M.C.F. per year in 1929, reaching a low point of 164.2 in 1931, increased to 179.5 in 1932, fell off to 170.4 in 1933 and increased thereafter in each year to 204.1 in 1937.

Average industrial sales in M.C.F. per customer per year, fluctuated more sharply as would be expected in a period of changing economic conditions such as business has experienced since 1929. The sales per customer were 27,135 M.C.F. in 1929, dropped to 17,440 in 1933 and recovered thereafter, reaching 21,294 in 1937. In 1938 the average consumption per customer declined to 18,044 M.C.F., but in 1939 increased to 19,673 M.C.F.

Number of Customers at End of Year. The data on number of customers at end of year shown in the lower portion of Schedule 1 reveals a substantial growth since 1929, the number of all customers increasing from 5,896,000 in that year to 7,454,000 in 1939, an increase of 1,558,000 customers. In only one year 1932, is a decline in total number of customers shown although it will be noted that the number of customers did not vary between 1930 and 1931.

Domestic customers increased from 5,540,000 in 1929 to 4,870,000 in 1939, a gain of 24 per cent in the eleven-year period. Except in 1931 and 1932 there was a substantial increase in domestic customers each year. The number of commercial customers reflected a marked growth during the period since 1929, the increase in this group being from 334,000 in 1929 to 541,000 in 1939, a gain of over 60 per cent. The number of industrial customers has almost doubled, increasing from 22,000 in 1929 to 43,000 in 1939.

Average Annual Revenue per Customer. The average revenue per domestic customer was \$40.34 in 1929 and \$37.24 in 1939. For commercial customers the average was \$97.54 in 1929 and \$93.09 in 1939. It will be noted that in 1939 average annual revenue for both domestic and commercial customers increased over that for 1938 but was somewhat lower than in 1937. Average revenues per industrial customer fluctuated considerably during the eleven-year period, and, while the number of customers almost doubled, the

annual revenue per industrial customer dropped *from* \$5,463.95 in 1929 to \$3,318.42 in 1939.

Schedule 2—Schedule 2 contains comparative estimated income statements for the years 1931 to 1939, inclusive, of the companies for which revenues, gas sales and customer data were presented in Schedule 1, and was taken from the same statistical bulletin of the American Gas Association.

It will be noted that the revenues from gas sales to consumers shown on the first line in Schedule 2 are in agreement with the revenue data shown in the upper portion of Schedule 1. Examination of Schedule 2 discloses that net operating income, designated as "Utility Operating Income" was \$107,681,000 in 1939, or about \$10,000,000 higher than that for 1938 although \$4,000,000 lower than the 1937 figure of \$111,811,000 which represented the peak for the nine-year period, and \$2,000,000 lower than the 1936 total. The low point following 1931, for which year net operating income was reported at \$84,601,000 was reached in 1933 at \$65,188,000. In 1934 net operating income recovered to \$71,382,000 and increased to \$93,508,000 in 1935.

Net income available for dividends and surplus followed the same general trend, starting at \$51,103,000 in 1931, declining to \$26,940,000 in 1933, rising steadily to \$74,989,000 in 1937, declining to \$62,275,000 in 1938, and increasing to \$72,152,000 in 1939. It will be noted that although net operating income in 1939 was lower than in 1936, net income available for dividends and surplus was higher in 1939 by \$3,000,000, chiefly because of a decrease in interest and other deductions of almost \$6,000,000.

Utility plant, which is reported only for the years 1934 to 1939, inclusive, increased from 1934 to 1938 by approximately \$111,000,000. In 1939 utility plant was reported at \$2,414,490,000, which was about \$30,000,000 less than the amount reported for 1938.

Chart 1—This chart shows at the right monthly sales of natural gas and revenues there from by months during the years 1929 1937, 1938, 1939 and the first half of 1940. At the lower left are shown monthly revenues of the manufactured gas industry and at the upper left combined revenues of the total gas industry during the same years, except for 1939 which in general coincided with 1938.

The revenues for the entire gas industry were generally higher in 1937 than in 1929 and 1938, but showed a substantial increase over 1937 during the first half of 1940, due generally to the increase in sales of natural gas. Revenues from the sale of manufactured gas show generally a decline since 1929. On the chart at the right, the lower group of curves shows that the revenues of the natural gas industry have increased generally since 1929 and are at a new high level in 1940.

The upper group of curves on the chart at the right shows that the business of natural gas companies is highly seasonal in character, as indicated by monthly fluctuations in the volume of gas sold. Volume of sales in recent years has been substantially greater than in 1929. In 1939 sales were greater in the first and last few months but smaller in the summer months than was the case in 1937, total sales for 1939, however, exceeding those of 1937 by about 13,000,000 M.C.F. Deliveries during most of the first six months of 1940 were greater in volume than in 1939, with sales in February at the greatest volume recorded for that month.

Chart 2—Chart 2 is presented in order to show the monthly trend of sales in 1940 as compared with 1939 both in total and by classes of revenue, that is, domestic, commercial and industrial. The chart shows that total monthly revenues in 1940 through the month of June were substantially higher than in 1939, with the largest consistent gain being in domestic revenues, although industrial and commercial revenues, particularly in the first few months of 1940, also reflected a substantial increase over 1939. The February peak in revenues will be seen to have been accounted for by peaks in domestic and commercial revenues recorded in that month.

Chart 3—Chart 3 is a photostatic copy of a chart taken from the American Gas Association's Statistical Bulletin No. 41 of October 1940. The chart compares the American Gas Association's index of total natural gas consumption by domestic and commercial consumers, with its index of manufactured gas consumption by all classes of consumers, and with the Standard Statistics index of industrial ac-

tivity, all indexes being based on the year 1926 as equal to 100.

The reason for omitting industrial sales in constructing the index of natural gas sales while including them in the index of manufactured gas sales is easily found by comparison of the relationship of industrial sales to total sales. In the case of manufactured gas, industrial sales for the twelve months ended December 1939, as reported in the American Gas Association's Monthly Summary of Gas Company Statistics for that month, amounted to approximately 58.5 million Mcf., or roughly 16 per cent of total manufactured gas sales. However, sales of natural gas for industrial use in the same period, including sales for electric generation purposes, amounted to approximately 846 million Mcf., or 64 per cent of total natural gas sales.

The chart shows that manufactured gas sales rose to 116 per cent of the 1926 level in 1930, fell to somewhat less than the 1926 level in 1933, increased steadily thereafter through 1939, the index reaching about 120 in that year. Sales of natural gas, however, on the basis indicated, have increased to a substantially greater extent since 1926 than manufactured gas sales.

The index of natural gas sales rose to 130 by 1929, dropped to 118 in 1933, which was still far above the 1926 level, advanced to about 146 by 1937, and fell off to a moderate extent in 1938, but reached a new peak in 1939. Thus in 1939 the volume of natural gas sales was approximately 54 per cent greater than in 1926, while manufactured gas sales were only about 20 per cent greater.

It will be seen by comparison with the Standard Statistics index of industrial activity that although both the natural and manufactured gas industries experienced a decline in volume of gas sold during the depression years, the volume did not decline below the 1926 level, except to a slight extent in the case of manufactured gas, in contrast with the experience of industry in general, for which a decline in activity of about 45 per cent from the 1926 level was recorded at the lowest depth of the depression.

Schedule 3—Schedule 3 shows the total amount of natural gas production and consumption in the United States for

the years 1926 to 1939, inclusive, and the amount transported in interstate commerce for the years 1926 to 1938, inclusive. From 1926 to 1939, natural gas production increased from 1,313 million to 2,435 million Mcf. Consumption, excluding gas used for field operations and manufacture of carbon black, increased from 704 million to 1,436 million Mcf. in the same period.

Natural gas transported in interstate commerce increased from 209 million Mcf. in 1929 to 636 million Mcf. in 1938. In other words, since 1926 production has increased 85 per cent, and consumption other than for field use and carbon black manufacture has more than doubled. These increases were accompanied by an increase of over 200 per cent in the quantity of natural gas transported in interstate commerce up to 1938 and, as will be seen from column (c) of the schedule, the proportion of the total quantity of natural gas consumed which is transported in interstate commerce has also been steadily increasing. Thus in 1938 this proportion was about 48 per cent of total consumption, whereas in 1926 the proportion was approximately 30 per cent, indicating the increased importance of natural gas as a commodity in interstate commerce.

Schedule 4—Schedule 4 is presented for the purpose of showing data on the interstate movement of natural gas into the states of Colorado and Wyoming, as taken from publications of the U. S. Bureau of Mines. The schedule shows that since 1929 Texas has been the largest source of natural gas transported into Colorado from other states.

The quantity of gas transported from Texas into Colorado is shown in Schedule 4 to have increased from 12,563,000 Mcf. in 1929, the first full year of operation of the Denver line, to 20,511,000 Mcf. in 1937, and to have declined to 18,210,000 Mcf. in 1938. The records of the Federal Power Commission indicate that all gas moving into Colorado from Texas is transported through the pipe lines of the Canadian River Gas Company and Colorado Interstate Gas Company, two of the three companies involved in the present proceedings.

With respect to natural gas transported into the state of Wyoming from other states, Schedule 4 shows that since

1931, the largest portion thereof has consisted of gas transported from Texas. In 1929 and 1930, the only interstate movement of gas into Wyoming was reported as gas transported from Colorado. The Commission's records disclose that the only movement of natural gas into Wyoming from Texas is transported through the facilities of the two above-named companies and those of the Colorado-Wyoming Gas Company, the third company involved in the present proceeding. The latter company formerly transported gas into Wyoming from the Wellington, Colorado, fields, but when that field began to show signs of depletion, the company's pipe line system was extended south and connected with the system of Colorado Interstate Gas Company in 1931.

Ownership, Issuance, Prices and Yields of Securities of Natural Gas Pipe Line Companies.

Schedule 5—Schedule 5 contains summarized data with respect to the security issues of 25 natural gas pipe line companies.

In preparing this list an attempt was made to include all natural gas companies which had the following characteristics:

(1) Companies engaged in the production and transmission of natural gas and sales thereof at wholesale and to main line industrial customers.

(2) Companies engaged in the transmission of natural gas and sales thereof at wholesale and to main line industrial customers.

(3) Companies so engaged which had operating revenues of \$2,500,000 or more.

The purpose in selecting companies conducting operations of the type mentioned with revenues of \$2,500,000 or more was to obtain a group of companies exhibiting generally the characteristics shown by the companies involved in the present proceedings.

Schedule 5 sets forth for each of the 25 companies having the characteristics just mentioned the total amount of securities outstanding and a breakdown of the total for each company according to classes of securities, i. e., bonds, de-

debentures, notes, preferred stock, and common stock. Also shown for each company and each class of security, based on the most recent information available, are the amounts of securities held by the public, by institutions, and by affiliates. Institutional holdings include securities held by banks, insurance companies, universities, and so forth.

In this connection, it should be pointed out that Schedules 5-A to 5-G, inclusive, contain details supplementing or supporting the data contained in Schedule 5. For example, Schedule 5-A contains certain information with respect to the bonds, debentures and notes of the companies listed in Schedule 5 which are held by the public. Schedule 5-B gives details regarding the identity of institutional holders of bonds, debentures, and notes of the companies and the amounts of individual holdings. Schedule 5-C lists the holdings of bonds, debentures and notes by affiliates. Schedule 5-D shows certain information with respect to preferred stock of the companies held by the public, and Schedule 5-E sets forth the holdings of preferred stock by affiliated interests. Schedule 5-F contains data on market prices, earnings per share, dividends, and so forth, on common stock of the companies held by the public. Lastly, common stock holdings by affiliates of the companies are listed in Schedule 5-G.

The summary at Page 5 of Schedule 5 discloses that the 25 natural gas pipe line companies listed therein had securities outstanding as of the latest date for which information is available in the aggregate amount of \$657,399,135. These outstanding securities consisted of bonds, debentures and notes in the amount of \$328,447,620, or 50.0 per cent of the total, preferred stocks in the amount of \$25,131,000 or 3.8 per cent and common stocks in the amount of \$303,820,515, or 46.2 per cent. The respective amounts of bonds, debentures and notes outstanding, together with the relationship of each to the total amount of all securities outstanding, were as follows:

	Amount	Per Cent of All Securities Outstanding
First mortgage bonds	\$188,083,523	28.6
Debentures	39,350,000	6.0
Notes	101,014,097	15.4
Total	\$328,447,620	50.0

Of the total amount of bonds, debentures and notes outstanding, affiliated interests held \$182,408,097, or 55.5 per cent, institutional holdings totalled \$126,628,000, or 38.6 per cent, and holdings by the general public amounted to \$19,411,523, or 5.9 per cent. Of the total of \$25,131,000 of preferred stocks outstanding, holdings by affiliated interests amounted to \$23,639,200, or 94.1 per cent, and the remainder, or 5.9 per cent, was held by the public. Of the common stock outstanding, amounting to \$303,820,515, the public held \$10,394,418, or only 3.4 per cent, and affiliated interests owned the remainder.

Applying similar calculations to the total of all outstanding securities of the 25 companies listed in Schedule 5, it is found that the proportion held by the general public was 4.7 per cent and that held by institutional investors was 19.3 per cent, while the proportion held by affiliated interests constitutes 76.0 per cent of the total.

The foregoing calculations clearly indicate the predominant position held by affiliated interests with respect to the ownership of outstanding securities of natural gas pipe line companies. To summarize, affiliated interests owned 55.5 per cent of the bonds, debentures and notes, 94.1 per cent of the preferred stocks, and 96.6 per cent of the common stocks of the 25 companies listed in Schedule 5. On the other hand, only 5.9 per cent of bonds, debentures and notes, 5.9 per cent of preferred stocks, and 3.4 per cent of common stocks of the 25 companies were held by the general public.

With respect to each of the companies listed in Schedule 5, except Canadian River Gas Company and Colorado In;

terstate Gas Company for which it is believed an adequate description will appear in the record of the present proceedings, a brief statement is presented in the following paragraphs describing the nature and location of operations, source of supply, and other pertinent data. Although some of the information presented below is given as of the end of 1938, it is believed that it will suffice as a general description of the companies' operations.

The Arkansas-Louisiana Gas Company is engaged in the production, transmission and distribution of natural gas. Its sources of supply are the Monroe, Richland and Elm Grove fields in Louisiana and certain other fields in Texas and Arkansas. The company supplies natural gas to a large number of communities in Arkansas, Louisiana, and Texas. The principal communities served at retail are Little Rock, Arkansas; Shreveport, Louisiana; and Texarkana, Texas. Gas is sold at wholesale, among others, to Consumers Gas Company for distribution in the city of Hot Springs, Arkansas, and to other companies for distribution in two smaller communities in Arkansas.

The company has 1,371 miles of transmission lines and has 10 compressor stations with an aggregate rated capacity of 26,390 h.p. The First Mortgage, $2\frac{3}{4}$ per cent, 1940-1944 bonds in the amount of \$3,300,000 were held, it is indicated on Page 1 of Schedule 5, by institutions.

Referring to Page 1 of Schedule 5-B, it will be seen that the \$3,300,000 First Mortgage bonds above mentioned are held by the Guaranty Trust Company of New York and by the Central Hanover Bank & Trust Company, the former owning \$2,800,000 of the bonds and the latter, \$500,000 thereof. The first mortgage, $3\frac{1}{2}$ per cent, 1945-1954 bonds in the amount of \$9,700,000 were also owned by institutions, as is indicated in Schedule 5, and Schedule 5-B shows that the entire issue was owned by the following institutions in the amounts indicated:

Equitable Life Assurance Society of U. S.	\$4,850,000
Metropolitan Life Insurance Company	3,550,000
Massachusetts Mutual Life Insurance Company	400,000
Sun Life Assurance Co. of Canada	350,000
Teachers Ins. & Annuity Association of America	300,000
Provident Mutual Insurance Co. of Philadelphia	250,000
	<hr/> \$9,700,000

The \$6,500,000 of Debentures shown in Schedule 5 were all held by the Arkansas Natural Gas Corporation as is shown on Page 1 of Schedule 5-C. Common stock of the company outstanding consisted of 298,988 shares of an aggregate par value of \$14,949,400. All of the common stock was held by affiliates and Schedule 5-G indicates that the entire issue in question was owned by the Arkansas Natural Gas Corporation, a subsidiary of the Cities Service system.

Chicago District Pipeline Company. This company is engaged in the purchase, transmission and sale of natural gas. Its gas transmission system consists of approximately 43 miles of 24-inch pipe line from Joliet, Illinois, to a point of connection with a transmission main of the Peoples Gas Light & Coke Company on the southern limits of the city of Chicago; approximately 1.3 miles of 20-inch pipe line from the company's 24-inch system to a point on the Illinois-Indiana State line; approximately 31 miles of 24-inch pipe line and 4 miles of 20-inch pipe line forming a connection with a transmission main of the Peoples Gas Light & Coke Company on the western limits of the city of Chicago. The Chicago District Pipeline Company purchases its gas requirements from the Natural Gas Pipeline Company of America. The largest sales by the Chicago District Pipeline Company are to the Peoples Gas Light and Coke Company. The notes payable of the company in the amount of \$2,769,897 were owned by the Natural Gas Investment Company, as shown in Schedule 5-C. The common stock, consisting of 7,500 shares of no par value, with book amount of \$659,000, was all held by the Natural Gas Investment Company, as indicated in Schedule 5-G.

Cities Service Gas Company. This company is engaged in the production and transmission of natural gas. It obtains its gas from a number of fields in Texas, Oklahoma, and Kansas, including particularly, the Panhandle field in Texas and the Oklahoma City and Seminole fields in Oklahoma. The company's system consists of 4,273 miles of pipe lines and 29 compressor stations. Gas is sold at wholesale to distributing companies serving 229 communities, including Kansas City, St. Joseph, Springfield, and Independence, Missouri; Bartlesville, Oklahoma; and Kansas City, Leavenworth, Topeka, and Wichita, Kansas.

The company has outstanding First Mortgage $3\frac{1}{4}$ per cent and $3\frac{3}{4}$ per cent bonds due 1940-1954 in the amount of \$35,000,000, all of which bonds are held by institutions. The $3\frac{3}{4}$ per cent bonds, aggregating \$20,000,000, were owned outright by two insurance companies, as indicated on Page 1 of Schedule 5-B, and the remaining \$15,000,000, $3\frac{1}{4}$ per cent bonds were held as collateral for loans, as noted on Page 1 of Schedule 5.

The \$8,000,000 Debentures, $5\frac{1}{2}$ per cent, 1956, were held by the Cities Service Company and subsidiaries, as shown in Schedule 5-C. The common stock of the company consisting of 350,000 shares of no par value was all held by the Empire Gas & Fuel Company, a Cities Service subsidiary, as shown in Schedule 5-G.

The El Paso Natural Gas Company is an operating and holding company. It purchases gas from producers in southeastern New Mexico. The company and its subsidiaries are engaged in the business of purchasing natural gas from producers in New Mexico, transmitting it through a pipe line system and selling it at wholesale to public utility and industrial customers located principally in or near El Paso, Texas; Hurley, New Mexico; Phoenix, Arizona; and Cananea, Mexico. The pipe lines of the company and its subsidiaries consist of 1,331 miles including duplicate lines, branch lines, and gathering lines. The First Mortgage, $3\frac{1}{4}$ per cent bonds of the company in the amount of \$6,000,000 and its First Mortgage, 3 per cent bonds in the amount of \$3,000,000, were held by the following institutions, as is shown on Page 2 of Schedule 5-B:

Sun Life Assurance Co. of Canada	\$900,000
Equitable Life Assurance Society of U. S.	2,500,000
Massachusetts Mutual Life Insurance Company	275,000
Metropolitan Life Insurance Company	2,000,000
Mutual Life Insurance Co. of New York	475,000
Harvard College	100,000
<hr/>	
Total, First Mortgage, 3½% bonds	\$ 6,000,000

All of the preferred stock of the company, consisting of 7 per cent cumulative preferred stock of a par value of \$100 per share, was owned by the public, and the common stock of the company was likewise held by the public.

The Hope Natural Gas Company is engaged in the production, purchase, transmission and distribution of natural gas. It is one of the oldest and most important gas subsidiaries of the Standard Oil Company (New Jersey) in the Appalachian field. The company's operations are confined to the State of West Virginia, but its main outlets are sales to the East Ohio Gas Company which operates in the State of Ohio, and to the Peoples Natural Gas Company which operates in the state of Pennsylvania, both of which companies are likewise subsidiaries of the Standard Oil Company (New Jersey). The only security outstanding of the Hope Natural Gas Company was common stock, all of which was owned by the Standard Oil Company (New Jersey).

The Houston Gulf Gas Company is engaged in the production, purchase, transmission and wholesale distribution of natural gas. The principal producing properties of the company are located in South Texas. The main pipe lines extend from the field in South Texas to Houston, Texas, and industrial areas in that vicinity. Pipe lines of the company aggregate 482 miles.

The company sells at wholesale substantially all requirements of about 18 communities in southern Texas. The company is also engaged in the production, transportation and sale of a limited amount of crude oil. The bonds and debentures of the company, as shown in Schedule 3, were

*The First Mortgage, 3 per cent bonds were held by these five insurance companies, the amounts held by each not being reported.

largely held by the public. The company's outstanding notes were held by an affiliate, United Gas Pipeline Company, as shown in Schedule 5-C. The preferred stocks were largely held by an affiliate, United Gas Pipeline Company, as indicated in Schedule 5-E. Most of the common stock of the company was also held by the United Gas Pipeline Company, a subsidiary of United Gas Corporation, as shown in Schedule 5-G.

The next company is Interstate Natural Gas Company, Inc., whose securities outstanding consisted of common stock, some of which was held by the public but the major portion of which, however, was held by Standard Oil Company (New Jersey) and the Columbian Carbon Company, as indicated in Schedule 5-G. The Interstate Natural Gas Company, Inc., owns 170 miles of main pipe line, 22 inches in diameter, running from the Monroe Gas Field in northern Louisiana to Baton Rouge, Louisiana. It serves at wholesale companies supplying natural gas to Natchez and Baton Rouge, and it connects at Baton Rouge with a pipe line of the United Gas Pipeline Company, which supplies gas for resale in the city of New Orleans.

The Lone Star Gas Company is engaged in the production, transmission and distribution of natural gas and also, to some extent, in the production of crude oil. Its transmission lines are in two service groups. A main group extends from the southeastern extremity of the Texas Panhandle to Fort Worth and Dallas, where it connects with transmission and distribution lines which extend through the central part of Texas and southern Oklahoma.

The company distributes gas directly in Fort Worth. The secondary group extends in a southwesterly direction from Brownwood, Texas, to San Angelo, Texas. The company owns 4,384 miles of mains and field lines and 21 compressor stations. The company had outstanding notes in the amount of \$16,600,000 which were held by the Lone Star Gas Corporation, parent company, as shown in Schedule 5-C. All of the company's outstanding common stock was held by the same holding company, as indicated in Schedule 5-G.

The Kentucky-West Virginia Gas Company is engaged in the production, transmission and sale of natural gas. The

company owns and operates natural gas properties and 518 miles of pipe line in the states of Kentucky and West Virginia.

Practically the entire output is furnished to the Louisville Gas & Electric Company and the Philadelphia Company and subsidiaries. As shown in Schedule 5-F, all of the 5 per cent cumulative first preferred stock of this company was held by Louisville Gas & Electric Company; and all of the 7 per cent cumulative second preferred was held by the Philadelphia Company and subsidiaries. The company's common stock was owned by the Louisville Gas & Electric Company (40 per cent) and the Philadelphia Company (60 per cent), as indicated in Schedule 5-G.

The Memphis Natural Gas Company is engaged in the purchase and transmission of natural gas. The company's main pipe line extends from the Monroe field in Louisiana to Memphis, Tennessee, a distance of 402 miles. All of the notes of the company were held by institutions and somewhat more than half of the common stock of the company was held by the public while the remainder was held by Commonwealth Gas Corporation.

The Mississippi River Fuel Corporation is engaged in the transmission of natural gas. The company owns and operates 450 miles of main pipe line from Louisiana to St. Louis, Missouri, together with main compressor stations and branch pipe lines incident to the delivery of natural gas to industrial consumers and to distributors to communities along the route. All of the first mortgage bonds of the company were held by institutions. The 6 per cent notes payable and all the common stock were held by affiliates.

The Michigan Gas Transmission Corporation is engaged in the purchase and transmission of natural gas. The company owns a transmission line which commences at the Illinois-Indiana State line near Dana, Indiana, connecting at that point with the main line of the Panhandle Eastern Pipe Line Company, and extends to Muncie, Indiana, where it connects with the line of the Ohio Fuel Gas Company.

The company also owns a pipe line extending to Detroit, Michigan, from Zionville, Indiana, through which it transports natural gas to Detroit for the account of Panhandle

Eastern Pipe Line Company. Natural gas is purchased from Panhandle Eastern Pipe Line Company and sold by the company at wholesale only.

All of the company's outstanding securities, consisting of notes payable amounting to \$6,470,500 and \$2,240,000 of common stock, were held by Columbia Gas & Electric Corporation.

The Natural Gas Pipeline Company of America is engaged in the purchase and transmission of natural gas. Gas from the Texas Panhandle field is purchased by the company from Texoma Natural Gas Company and Colorado Interstate Gas Company at a point of delivery near Gray, Oklahoma. The company transports the gas through its own transmission system extending through the states of Oklahoma, Kansas, Nebraska, Iowa, and Illinois to Joliet, Illinois, where the gas is delivered to Chicago District Pipeline Company which sells the gas to utilities for distribution in the Chicago area. Comparatively small amounts of gas are sold by the company at different points along its main transmission line, the largest proportion of such gas being sold for resale to communities in Iowa.

The company's securities, consisting of First Mortgage 6 per cent bonds due 1946 in the amount of \$42,300,000 and \$3,000,000 book amount of common stock, were all held by affiliated interests.

The New York State Natural Gas Corporation is engaged in the production and transmission of natural gas in northwestern Pennsylvania and southwestern New York where gas is produced and transported for sale to distribution systems of others in several cities and towns in central New York, of which Syracuse, Auburn, Cortland and Ithaca are the most important. The system, including pipe lines of an affiliate, Keuka Construction Corporation, consists of approximately 256 miles of pipe lines, owned or leased gas rights on approximately 325,500 acres of land and 36 wells.

The company's securities, consisting of income notes and common stock, were all owned by Lycoming United Gas Corporation, a subsidiary of Standard Oil Company (New Jersey).

The Northern Natural Gas Company is engaged in the

production, purchase, transmission and distribution of natural gas. The company and subsidiaries own and operate approximately 2,200 miles of natural gas transmission lines, extending from the Texas Panhandle and Hugoton, Kansas, fields to South Dakota and Minnesota. The main transmission lines are largely 24 inches in diameter. Natural gas is sold principally at wholesale in Iowa, Kansas, Nebraska, South Dakota, and Minnesota. Cities supplied at wholesale include Omaha and Lincoln, Nebraska; Council Bluffs, Des Moines, Sioux City, Mason City and Fort Dodge, Iowa; Sioux Falls, South Dakota; and Minneapolis and Rochester, Minnesota. The company's First Mortgage, 3 1/4 percent, 1954 bonds and the 2 1/8 percent notes due 1940-1946 were all held by institutions. The bonds were sold to the institutions in August of last year. The common stock of the company was all held by three affiliates.

The Panhandle Eastern Pipe Line Company is engaged in the production, purchase, transmission and distribution of natural gas. The company owns a natural gas transmission system extending from the Amarillo gas field in the Texas Panhandle through Oklahoma, Kansas, Missouri and Illinois to a point near Dana, Indiana, adjacent to the Illinois-Indiana State line. The major portion of the gas transmitted is sold at wholesale to other gas transmission and distributing companies and the balance is sold to industrial consumers. The principal distributing company served is the Michigan Consolidated Gas Company which supplies gas to customers in Detroit, Michigan, and vicinity. The company's transmission system consists of approximately 2,100 miles of pipe line. The First Mortgage, 4 percent, 1952 bonds of the company were owned in part by the public, but largely by institutions. The bonds were issued in March 1937. The preferred stock, both Series A and Series B, was all held by the Columbia Oil & Gasoline Corporation, and the common stock was held by the Columbia Oil & Gasoline Corporation and by the Missouri Kansas Pipe Line Company.

The Pittsburgh & West Virginia Gas Company is engaged in the production, purchase, transmission, distribution and sale of natural gas. The company operates 1,375 miles of pipe line and serves gas to 44 communities in the State of West Virginia, and sells gas at wholesale to a number of

companies. The outstanding notes of the company, amounting to \$13,090,446, were held by affiliated companies. All of the common stock of this company was held by Philadelphia Company, a Standard Gas & Electric subsidiary.

The Southern Natural Gas Company is engaged in the transmission of natural gas. The company purchases gas under long term contract from the Monroe and Richland fields in Louisiana and transports gas from these fields to markets in Mississippi, Alabama and Georgia. The main line extends eastward to Atlanta, Georgia, and comprises approximately 504 miles of pipe line mileage but parallel transmission lines and a branch line to Columbus, Georgia, bring the total length of the system to 1,300 miles. Gas is sold chiefly to 12 distributing companies. The First Mortgage, 4½ percent, 1951 bonds were held almost equally by the public and by institutions. The First Mortgage, 4½ percent, 1952 bonds were all held by institutions. The Adjustment Mortgage bonds of 1960 were held in approximately equal amounts by the public and by affiliates, a small portion being held by institutions, and notes in the amount of \$800,000 were held by banks. Of the common stock of an aggregate par value of \$5,189,776, \$2,698,684 was in the hands of the public and the balance was owned by affiliates. The Adjustment Mortgage bonds were issued in 1936, pursuant to a reorganization plan, to holders of predecessor company's convertible 6 percent debentures, 1944, and to holders of filed and allowed claims on the basis of \$500 of the new adjustment bonds; plus 48 shares of new Class A stock, for each \$1,000 principal amount of old debentures and each \$1,030 of claims. The Class A stock together with Class B stock was subsequently converted into the presently outstanding common stock.

The Texoma Natural Gas Company is engaged in the production and transmission of natural gas. The company owns a 24-inch main pipe line extending approximately 76 miles from Fritch, Texas, to a point near Gray, Oklahoma, where it connects with the transmission system of the Natural Gas Pipeline Company of America. The company produces all of its requirements from its own wells in the Amarillo gas field in the Texas Panhandle, and sells the major portion of the gas produced to the Natural Gas Pipeline Company of America. The company's properties also include a re-

linery at Fritch, Texas, for the purification of natural gas and the extraction of gasoline.

The outstanding securities of the Texoma Natural Gas Company consist of \$18,750,000 principal amount of Gas & Pipeline Mortgage, 6 percent, 1946 bonds, all owned by Natural Gas Pipeline Company of America, and 10,000 shares of no-par-value common stock stated, at the book amount of \$500,000, which are owned by a group of five affiliates.

The United Fuel Gas Company is engaged in the production, purchase, transmission and distribution of natural gas. The company's production operations are carried on in West Virginia and it sells principally at wholesale to distribution companies in West Virginia, Kentucky and Ohio, although it also supplies natural gas to many communities in West Virginia as well as in southeastern Ohio at retail. The 4 percent notes of the company, due 1940-1946, in the amount of \$4,500,000 were all held by institutions. Other notes aggregating \$14,535,000, were held by the Columbia Gas & Electric Corporation and all of the common stock was held by the same company.

The United Gas Pipe Line Company is engaged in the purchase, and transmission of natural gas. Gas is purchased principally at the wells in Texas, Louisiana and Mississippi, and is gathered and transported for sale to distributing systems of United Gas Corporation, to industrial corporations, and to others. The company owns 4,743 miles of main pipe lines in Texas, Louisiana, Mississippi, Alabama and Florida. The company, therefore, has long pipe lines serving a very wide territory. All of the outstanding securities of the company were held by affiliates, the debentures and common stock being owned by the United Gas Corporation, and the bonds being held by Electric Bond & Share Company.

The United Natural Gas Company is engaged in the production, purchase, transmission and distribution of natural gas and obtains its supply from northwestern Pennsylvania. The company supplies gas to several towns in Pennsylvania and a large quantity of gas is sold to Iroquois Gas Corpora-

tion, an affiliated company, for distribution in western New York. The only security the company had outstanding was common stock, all of which was held by the National Fuel Gas Company.

The Warfield Natural Gas Company is engaged in the production, purchase, transmission, distribution and sale of natural gas. The company operates approximately 500 miles of pipe line, including gathering and transmission mains, and supplies gas to a number of communities in the State of Kentucky, the principal community being Ashland. The company's principal customers are affiliated companies. The notes of the company outstanding in the amount of \$9,790,000 as well as all of the company's common stock are held by the parent company, Columbia Gas & Electric Corporation.

Schedule 5-A.—Schedule 5-A lists the bond and debenture issues of the companies included in Schedule 5 of which any portion was held by the public. The schedule also lists the bond issues of such companies which were outstanding in the hands of the public during a part of the period 1937-1939, but which had been retired before the end of that period. For each issue the schedule shows the name of the issuing company, a description of the issue, the total principal amount outstanding, the portion thereof held by the public and the ratings assigned by Moody's and Poor's publications. The schedule next shows the averages of high and low market prices for the years 1937 to 1939, inclusive, and for the first nine months of 1940, together with the approximate yields to maturity based thereon. This information is followed by data on market prices as of September 30, 1940, and yields to maturity based on such prices. The last two columns of the schedule show the respective current call prices for general and sinking fund purposes.

The first issue shown in Schedule 5-A consists of First Mortgage 4 percent Bonds, due 1951, of Arkansas Louisiana Gas Company. This issue, which carried Moody's and Poor's A rating, was offered to the public in 1936, as shown in Schedule 6, at a price of 98 to yield 4.18 percent to purchasers. On the basis of average high and low market prices the yield to investors was slightly less than 4.00 percent in 1937 and 1938, and 3.69 percent in 1939. The bonds

were retired in connection with refunding operations in October 1939, when the company sold privately one issue of short-term, and one issue of long-term, serial bonds at par to yield 2.75 percent and 3.50 percent, respectively, to purchasers.

The next issue listed is that of El Paso Natural Gas Company, consisting of First Mortgage $4\frac{1}{2}$ percent Bonds, due 1951. These bonds were also offered to the public in 1936, as shown in Schedule 6, and were ~~would~~ at a price of $98\frac{1}{2}$ to yield 4.64 percent. The issue carried Moody's Ba rating and Poor's B** rating. The bonds were selling above par in 1937 and 1938 to yield 4.17 percent and 4.09 percent, respectively, but were retired in January 1939 with the proceeds of an issue of 3 percent Serial Notes and a new issue of First Mortgage $3\frac{1}{2}$ percent Bonds, due 1953. The new bonds were sold privately at 99 to yield 3.59 percent to purchasers. In 1940 the company sold privately \$3,000,000 principal amount of First Mortgage 3 percent Bonds, due 1955, at $98\frac{1}{2}$ to yield 3.13 percent.

The next issue shown on Schedule 5-A is that of Houston Gulf Gas Company designated as First and Collateral 6's of 1943. These bonds were originally offered in April 1928 at $99\frac{1}{2}$ in the amount of \$11,000,000. At December 31, 1939, \$4,238,000 principal amount was outstanding, of which \$3,777,000 was held by the public. The bonds are indicated as carrying Moody's Ba rating and Poor's B** rating. Moody's rating was revised from Baa to Ba on October 28, 1939, but Poor's rating has not been revised.

The $6\frac{1}{2}$ debentures, due in 1943, were originally offered in May 1928 at 99 in the principal amount of \$8,000,000. They were convertible at par into 7 percent preferred stock, Series B, until March 31, 1938. The amount outstanding at December 31, 1939 was \$1,850,000 of which \$1,453,000 was held by the public. Moody's and Poor's ratings are reported as B and B*, respectively, Moody's rating on the debentures was also revised in conjunction with its revision of rating on the 6 percent bonds, in this instance the rating having been lowered from Ba to B on October 28, 1939 and, as above, with no change in Poor's rating.

As indicated in Schedule 5-A, the outstanding bonds and debentures of Houston Gulf Gas Company were called for

redemption on October 1, 1940, at 101. They were called in connection with proposed refunding operations of United Gas Corporation which, through United Gas Pipeline Company, owns a 99.6 percent interest in the common stock of Houston Gulf Gas Company. Inasmuch as notice of call was published prior to September 30, 1940, the September 30 bid price in each instance was the same as the call price. However, market prices for 1940 preceding notice of call averaged $102\frac{3}{4}$ for the bonds and $101\frac{7}{8}$ for the debentures, resulting in yields of 5.00 percent and 5.82 percent, respectively. These yields were somewhat lower than those for 1939 but were substantially below the corresponding yields of 5.75 percent and 6.58 percent for 1937.

The First Mortgage 4 percent Bonds, due 1952, of Panhandle Eastern Pipe Line Company were quoted on September 30, 1940, at $103\frac{5}{8}$, or $1\frac{1}{8}$ points above call price, resulting in a yield of 3.63 percent. These bonds, which carry both Moody's and Poon's A rating, were sold by public offering in March 1937 on a 4.23 percent yield basis, as shown in Schedule 6. However, the yield established for the remainder of that year, based on average market price, was 4.06 percent. The yield declined to 3.85 percent in 1938 and to 3.77 percent in 1939, and, as above indicated, was still lower in 1940. Of the \$23,000,000 principal amount of bonds outstanding, holdings by the public amounted to \$4,918,000.

The bonds of Southern Natural Gas Company listed in Schedule 5-A include two issues, consisting of First Mortgage $4\frac{1}{2}$ percent Bonds, due 1951, Baa and B** rating, and Adjustment Mortgage 6 percent Bonds, due 1960, B and B* rating. On September 30, 1940, the $4\frac{1}{2}$ percent bonds were quoted at $106\frac{5}{8}$, or $1\frac{5}{8}$ points above call price, resulting in a yield of 3.75 percent while the 6 percent bonds were quoted at $100\frac{1}{2}$ point above call price, resulting in a yield of 5.96 percent. The current yields on both bond issues are substantially lower than the 1937 yields of 4.70 percent for the $4\frac{1}{2}$ percent bonds and 7.44 percent for the 6 percent bonds. Public holdings of both the $4\frac{1}{2}\%$ and 6% issues constituted approximately one-half of the total principal amount outstanding.

It will be noted that the total shown in Schedule 5-A under the column "Held by Public", \$19,411,523, is in agreement

with the total designated as Bonds, Debentures and Notes Held by the Public in the summary on Page 5 of Schedule 5.

An additional fact which should be mentioned concerning the issues listed in Schedule 5-A is that in each instance the trust indenture contains provisions for the gradual retirement of the issues through sinking fund operations.

Schedules 5-B and 5-C—These schedules show the individual holdings by institutions and affiliates, respectively, of bonds, notes and debentures of the companies included in Schedule 5.

Schedule 5-D—Schedule 5-D contains similar information with respect to preferred stock held by the public as was shown in Schedule 5-A for bonds and debentures of the companies listed in Schedule 5. However, Moody's publications do not assign ratings to capital stock issues; therefore, only Poor's rating is given.

The schedule shows that only two of the 25 companies listed in Schedule 5 had preferred stock issues of which any part was outstanding in the hands of the public, and the public held such a small portion of the preferred stock issues of Houston Gulf Gas Company that no market quotations for those issues were available.

It will be seen that the public held the entire amount of outstanding 7 percent preferred stock of El Paso Natural Gas Company, of which \$600,000 appears to have been issued at date of organization in 1928 and the remainder through subsequent conversion of other securities. A yield of 6.36 percent is indicated for this stock on the basis of a September 30 bid price of 110. In this connection, it is of interest to note that the bid price for this stock was equal to the call price.

End of month bid prices on the preferred stock of El Paso Natural Gas Company ranged from 94 to 107 in 1937, 102 to 109 in 1938, and 108 to 111 in 1939. The dividend record on this stock discloses that dividends in arrears amounting to \$26.25 per share were cleared up on June 22, 1936, since which date dividends have been paid regularly.

The total of \$1,491,800, shown as the last figure in the column headed "Held by Public" on Schedule No. 5-D is

in agreement with the amount shown in the second column of the summary on Page 5 of Schedule 5 opposite Preferred Stock.

Schedule 5-E—It is believed that Schedule 5-E, which shows individual holdings by affiliated interests of preferred stock of the companies listed in Schedule 5, requires no comment.

Schedule 5-F—Schedule 5-F gives certain information relative to the common stock issues of the six companies included in Schedule 5 which had common stock outstanding in the hands of the public.

The schedule shows for each issue the name of the issuing company, the number of shares and book amount of common stock outstanding, the portion thereof held by the public, the par value, if any, and Poor's rating. Next are shown the earnings per share for the years 1937, 1938 and 1939, and for the latest twelve months for which reported; the averages of high and low market prices for the years 1937 to 1939, inclusive, and for the first nine months of 1940; and the earnings-price ratio, i.e., the percent of earnings per share to market price, for the periods indicated. Finally, there is shown for each issue the earnings-price ratio based on market price at September 30, 1940 and on latest earnings per share reported.

Market quotations could not be obtained for the common stock of Houston Gulf Gas Company as relatively few shares were held by the public. None of the common stock of Panhandle Eastern Pipe-Line Company was held by the public prior to September 1939. The presently outstanding common stock of Southern Natural Gas Company has been outstanding only since its issuance in May 1939 in exchange for the Class A and Class B stock formerly outstanding. Accordingly, only three of the six common stock issues listed in Schedule 5-F have been held by the public throughout the period 1937-1940, namely, those of El Paso Natural Gas Company, Interstate Natural Gas Company, Inc., and Memphis Natural Gas Company.

The earnings-price ratios of the respective common stock issues for the periods and on the basis indicated in Schedule 5-F are set forth in the following summary:

Common Stock Earnings-Price Ratios

Company	1937	1938	1939	1940	9/30/40
El Paso Natural Gas Co.	13.79%	14.08%	10.60%	11.37%	11.70%
Houston Gulf Gas Co.	(No Market Quotations)				
Interstate Natural Gas Co.	9.90	10.02	8.88	9.08	8.79
Memphis Natural Gas Co.	16.63	13.96	15.74	14.84	13.68
Panhandle Eastern Pipe Line Co.	—	—	9.61	13.03	11.97
Southern Natural Gas Co.	—	—	18.14	20.37	18.25

Schedule 5-G—This schedule contains a list of the individual holdings by affiliates of common stock of the companies listed in Schedule 5. None of such common stock is held by institutions.

Schedule 6—Schedule 6 contains a compilation of bond issues sold by the natural gas companies listed in Schedule 5 during the years 1935 to 1940, inclusive. The issues are grouped according to Moody's ratings, and for each issue there appears the name of the issuing company, the approximate offering date, a description of the issue, principal amount of the offering, net cost to company and price to public. In addition, the schedule shows the distribution of holdings, of those issues still outstanding among public holders, institutional holders, and affiliates.

Under "Net Cost to Company" are shown the net proceeds to the company per \$100 of principal amount after underwriters' commissions and other expenses and in the adjoining column a percentage representing the annual cost of the funds borrowed calculated to maturity. Under "Price to Public" are shown the selling price to the public and in the adjoining column a percentage representing the annual yield to purchasers calculated to maturity.

The first issue shown in Schedule 6 is that of Arkansas-Louisiana Gas Company offered in July 1936, which consisted of First Mortgage, 4 percent bonds, due 1951 in the

amount of \$10,000,000, with a rating of A. On this issue the yield to the public was 4.18 percent and cost to the company 4.62 percent. These bonds were refunded in September 1939 when, as shown in the lower portion of the schedule, \$3,300,000 First Mortgage 2 $\frac{3}{4}$ percent Series A bonds due 1940-44 and \$9,700,000 First Mortgage 3 $\frac{1}{2}$ percent Series B bonds due 1945-54 were sold privately at par to yield 2.75 percent and 3.50 percent, respectively. The cost to the company was 3.21 percent on the 2 $\frac{3}{4}$ percent bonds and 3.59 percent on the 3 $\frac{1}{2}$ percent bonds.

The Panhandle Eastern Pipeline Company in March 1937 issued \$24,000,000 of first mortgage 4 percent bonds due in 1952, with rating of A, at a yield of 4.23 percent and cost to the company of 4.46 percent. These bonds were selling to yield 3.63 percent at September 30 and the market price was above call price at that date.

The Southern Natural Gas Company, in November 1936, issued \$15,000,000 principal amount of first mortgage 4 $\frac{1}{2}$ percent bonds due in 1951, rating Baa, at a yield of 4.50 percent and net cost to the company of 4.85 percent. At September 30 these bonds were selling at a price in excess of call price on the basis of a yield of 3.75 percent. In October 1937, Southern Natural Gas Company negotiated the private sale of \$650,000 principal amount of 4 $\frac{1}{2}$ percent first mortgage Bonds due in 1952 at a yield to purchasers of 4.71 percent. The proceeds were deposited with the corporate trustee to be drawn against for expenditures made for bondable property.

The El Paso Natural Gas Company, in June 1936, issued first mortgage 4 $\frac{1}{2}$ percent bonds due 1951, rating Ba, in the amount of \$7,500,000, at a yield to the public of 4.64 percent and cost to company of 5.06 percent. Also in June 1936, the company sold \$3,750,000 principal amount of 4 $\frac{3}{4}$ percent convertible debentures, due in 1946, at a yield to investors of 4.75 percent and cost to company of 5.38 percent. The debentures carried Moody's B rating. It is reported that the conversion privilege was exercised by holders of virtually the entire debenture issue, such conversion resulting in the issuance of approximately 225,000 of the 600,000 presently outstanding shares of the company's common stock. The same company in October 1937 sold privately an issue of \$1,200,000 first mortgage 4 percent

bonds due in 1952 at a yield to purchasers of 4.20 percent, the purpose of the issue having been to reimburse the company's treasury for construction expenditures previously made and to provide additional working capital.

In connection with refunding operations the El Paso Natural Gas Company in December 1938 sold privately a \$6,000,000 issue of first mortgage $3\frac{1}{2}$ percent bonds, due in 1953, at a yield to purchasers of 3.59 percent. The proceeds from this issue, together with funds obtained through the issuance of 3-percent Serial Notes in the amount of \$4,000,000 to Chase National Bank, were applied to the redemption on January 16, 1939, of the outstanding principal amount of bond and debenture issues sold in 1936, 1937 and 1938, and to retire \$600,000 of short-term notes and for other corporate purposes.

In June and July 1940 the El Paso Natural Gas Company sold *privately* two issues of first mortgage 3 percent bonds due in 1955 in the aggregate principal amount of \$3,000,000 to yield 3.13 percent. The proceeds from these issues are reported to have been used for the retirement before maturity of \$1,500,000 of bank loans and for other corporate purposes.

The last group of issues shown in Schedule 6 includes all issues which were sold *privately* during the period 1935-1940. It will be noted that Moody's assigns no rating to issues that are sold in this manner.

The first item shown is the first mortgage 4 percent bond issue, due 1952, of the Mississippi River Fuel Corporation sold in February 1937 to yield 4 percent at an assumed price of par to purchasers.

The issues sold *privately* by El Paso Natural Gas Company and Southern Natural Gas Company have already been referred to above.

The Cities Service Gas Company in December 1938 issued \$20,000,000 principal amount of $3\frac{3}{4}$ percent first mortgage bonds due serially in the years 1947-54. The bonds were sold *privately* at par to yield 3.75 percent. At the same time the company negotiated bank loans in the amount of \$15,000,000 secured by an equal principal amount of first mortgage $3\frac{3}{4}$ percent bonds due 1940-46.

The Northern Natural Gas Company, in August 1939, issued first mortgage $3\frac{1}{4}$ percent bonds due 1954 in the principal amount of \$16,000,000 at a yield to the public of 3.25 percent, and cost to the company of 3.35 percent. These bonds were issued for refunding purposes. At the same time the company issued unsecured promissory notes to the Chase National Bank in the amount of \$6,000,000 carrying interest at $2\frac{1}{8}$ percent and maturing over the period 1940-1946. It was reported that the proceeds from these unsecured promissory notes were to be used as follows: \$3,000,000 for construction of a 240-mile pipe line from Sioux City, Iowa, to Minneapolis; \$1,200,000 for compressor station property, lateral pipe lines, distribution system properties of subsidiaries and development costs, all directly incidental to the pipe line; and \$1,200,000 to defray cost of additions and betterments to the company's existing property, including distribution systems of subsidiaries, etc.

The issues of Arkansas-Louisiana Gas Company in September 1939 have already been described.

In conclusion, with respect to Schedule 6, there are two additional facts which should be mentioned. In the first place, a characteristic feature of natural gas company bond issues, arising from the fact that the business of such companies is based on exploitation of a wasting resource, is their relatively short life to maturity. As will be seen from the schedule this life generally does not exceed 15 years, whereas for electric utility bond issues the life is generally 25 or 30 years. For example, of the 15 issues listed in Schedule 6, eleven have a 15-year life to maturity, one has a 10-year life, and three have serial maturities. Of these three, the last maturity date is 16 years from date of issue in one instance, 15 years in another instance, and only five years in the case of Arkansas-Louisiana Gas Company's first mortgage $2\frac{3}{4}$ percent bonds due 1940-44.

Finally, in the case of each of the bond issues listed in Schedule 6, the trust indenture contains provisions relative to sinking fund requirements with a view toward the gradual retirement of the bonds over the life of the issue. The only exceptions that will be noted are the three issues having serial maturities, and a provision for serial maturities accomplishes the same purpose as redemption through sinking fund operations.

In the preceding discussion with respect to the ownership, issuance, prices and yields of securities of natural gas pipeline companies, reference has been made to the limited data available regarding yields on securities of such companies because of the *predominant* ownership of their securities, by affiliated interests. Moreover, the fact that ten of the fifteen bond issues sold by such companies in the period since 1935 were disposed of privately by negotiation with institutional investors has had the effect of limiting the number of bonds of representative companies actually traded in on the market. Consequently, with only 5.9 percent of bonds, debentures and notes, 5.9 percent of preferred stocks, and 3.4 percent of the common stocks of a representative group of 25 companies being outstanding in the hands of the public and traded in on the market, it follows that caution must be exercised in relying upon the limited data available with respect to market appraisal of securities of natural gas pipeline companies in attempting to ascertain the opportunity cost of capital under existing market conditions for particular companies engaged in natural gas pipeline operations.

Corporate Affiliations of Canadian River Gas Company, Colorado Interstate Gas Company, and Colorado-Wyoming Gas Company and Recent Financing by Affiliated Companies. Chart 4—This chart is presented for the purpose of showing the corporate affiliations of the companies involved in the present proceedings. The chart shows that all of the common stock of Canadian River Gas Company is owned by Southwestern Development Company whose stock, in turn, is owned by Consolidated Oil Corporation (51 percent), and by The Mission Oil Company (47.28 percent).

It will be noted that the Southwestern Development Company also controls the Amarillo Oil Company and the Clayton Gas Company, two customer companies of Canadian River Gas Company, and has a substantial minority stock interest in Natural Gas Pipeline Company of America and in Texoma Natural Gas Company. The Natural Gas Pipeline Company of America purchases 25 per cent of its gas requirements from Colorado Interstate Gas Company which in turn obtains its total requirements from the Canadian River Gas Company, and deliveries by Colorado Interstate

Gas Company are made to Natural Gas Pipeline Company of America through facilities leased from Texoma Natural Gas Company.

It will also be noted that two customer companies of Amarillo Oil Company, itself a subsidiary of Southwestern Development Company, are also wholly-owned subsidiaries of the latter company. The two customer companies referred to are the Dalhart Gas Company and the Panhandle Pipe Line Company. Another wholly-owned subsidiary of Southwestern Development Company is the Amarillo Gas Company which purchases its requirements from the Panhandle Pipe Line Company.

Further reference to Chart 4 will show that the Southwestern Development Company owns a 42.5 percent stock interest in Colorado Interstate Gas Company. An equal percentage of the latter's stock is owned by Standard Oil Company (New Jersey), and the remainder is held by Public Service Company of Colorado. Standard Oil Company (New Jersey) also owns a substantial minority interest in Natural Gas Pipeline Company of America.

With respect to Public Service Company of Colorado it will be noted that its common stock is 99.99 percent owned by Cities Service Power & Light Company. The latter company's stock is owned to the extent of 91.88 percent by the Cities Service Company, although such stock has been pledged by Cities Service Company under an indenture securing its outstanding debentures, and voting rights therein have been relinquished to the trustee under that indenture. It will also be seen that the Cities Service Company owns a substantial minority interest in the capital stock of Natural Gas Pipeline Company of America.

Further examination of Chart 4 will disclose that Public Service Company of Colorado is the sole owner of all outstanding stock of Colorado-Wyoming Gas Company. The latter company's capital stock, consisting of 50,000 shares without par value, is reflected on its books at \$1,501,000, and the company has no funded debt. Not shown on the chart is the 100 percent ownership by Public Service Company of Colorado of Cheyenne Light, Fuel & Power Company, which is engaged in the production and distribution of electric energy and in the purchase (from Colorado-Wyo-

ming Gas Company) and distribution of natural gas in Cheyenne, Wyoming.

• Schedule 7—This schedule contains certain information with respect to recent financing by companies affiliated directly and indirectly with the companies involved in the present proceedings. The data in Schedule 7 disclose financing by Consolidated Oil Corporation, Public Service Company of Colorado, Standard Oil Company (New Jersey) and Southwestern Development Company from 1936 through September 1940.

Consolidated Oil Corporation—The first issue listed for this company was sold in June 1936 and consisted of \$50,000,000 of 3½ percent Debentures due 1951 which were offered to purchasers at 98 to yield 3.67 percent to maturity. In August 1938 the company negotiated the private sale at par to Equitable Life Assurance Society of 3½ percent Debentures due 1950 in the amount of \$25,000,000.

Public Service Company of Colorado—In November 1939 this company offered publicly a \$40,000,000 issue of First Mortgage 3½ percent bonds due 1964 at 102 to yield 3.38 percent, and a \$12,500,000 issue of 4 percent Debentures due 1940 at 102 to yield 3.76 percent.

Standard Oil Company (New Jersey)—This company in May 1936 issued \$85,000,000 principal amount of 3 percent Debentures due 1961 of which \$30,000,000 were offered publicly and \$55,000,000 were sold privately to Rockefeller Foundations. The price to purchasers for the 3 percent Debentures was 98, resulting in a yield to maturity of 3.12 percent. In July 1938 the company issued \$50,000,000 of 2¾ percent Debentures which were offered at 99 to yield 2.83 percent, and \$35,000,000 of 1¾ percent 2½ percent Serial Notes offered at par of which \$4,000,000 were sold to the Rockefeller Institute for Medical Research and the remainder were sold to the public. These notes were redeemed on July 2, 1940, funds for their redemption having been obtained from the issuance of \$35,000,000 1¼ percent 1½ percent Promissory Notes sold at par. Of the latter notes \$14,000,000 consisted of 1¼ percent notes due July 1, 1943 and 1944 which were sold privately to two purchasers, and \$21,000,000 consisted of three 1½ percent notes due July 1, 1945, 1946 and 1947, respectively, evidencing borrowings from two banks.

Southwestern Development Company—On July 1, 1936, this company obtained a 2-4 percent loan secured by collateral and due 1937-1941, from the Guaranty Trust Company of New York. The collateral consisted of certain of the company's holdings of securities in natural gas companies. Subsequently a reduction in interest rate from 4 percent to $3\frac{1}{2}$ percent and an extension of maturity date were obtained with approval of the Securities and Exchange Commission and a new 3 percent collateral note, in exchange for the outstanding $3\frac{1}{2}$ percent note, was issued on August 1, 1939.

In December 1936 and 1937 the company issued its unsecured 4 percent notes to holders of its common stock in payment of dividends at the rate of \$43.18 per share in 1936 and \$50.00 per share in 1937. The notes issued in December 1936 were redeemed on January 3, 1938.

On November 1, 1937, the company negotiated a \$3,292,000 collateral loan, 4 percent, due 1939-1943, from the Guaranty Trust Company of New York. The collateral consisted of 6 percent First Mortgage and Collateral Trust Sinking Fund Gold Bonds, due January 1, 1945, of South Plains Pipe Line Company (assumed by West Texas Gas Company, a wholly-owned subsidiary of Southwestern Development Company). The Southwestern Development Company obtained approval of the Securities and Exchange Commission of the sale of \$3,150,000 principal amount of the above 6 percent bonds to the West Texas Gas Company and applied the proceeds to the discharge of the unpaid balance of its 4 percent collateral loan dated November 1, 1937. The West Texas Gas Company had obtained the funds with which to purchase the bonds from Southwestern Development Company through a 3 percent collateral loan, due January 1, 1945, made by the Guaranty Trust Company of New York.

The most recent financing by the Southwestern Development Company was undertaken in January 1940 when the company arranged with the Guaranty Trust Company of New York a 3 percent collateral loan, due 1940-1945, in order to redeem the 4 percent unsecured notes issued for dividend purposes in December 1937 and to liquidate the balance of

the 3 percent collateral loan dated August 1, 1939 and due July 1, 1944.

(Vol. LXXIV, pp. 10873-10929.)

Q. Mr. Knapp, since the time of the completion of your rate of return study, Exhibit No. 225 and Exhibit No. 225-A, I will ask you whether you have had the opportunity to learn about the refunding operations of the Panhandle Eastern Pipeline Company that took place sometime during the month of January 1941.

A. I have.

Q. Could you explain briefly what additional information you obtained concerning those matters?

A. The Panhandle Eastern Pipe Line Company on January 30, 1941 made a public offering through an underwriting group of \$12,000,000 principal amount of 3 per cent Series B first mortgage and first lien bonds, dated November 1, 1940 and maturing November 1, 1960. These bonds carrying Moody's rating were offered to the public at a price of 102 per cent of principal amount to yield 2.87 per cent to purchasers.

In conjunction with the public offering of Series B bonds, the company sold privately \$6,250,000 principal amount of Series A bonds to four banks and an insurance company. The Series A bonds were dated November 1, 1940 and are to mature serially in equal annual instalments on November 1, 1946 to 1950, inclusive, with interest rates ranging from 1.65 per cent to 2.30 per cent according to maturity.

At the same time the company arranged for the private sale of \$5,000,000 face amount of Serial notes due in four equal instalments on November 1, 1942 to 1945, inclusive, with interest rates ranging from .75 per cent to 1.50 per cent according to maturity.

It was reported that the proceeds of the three issues were to be applied to the reduction of all of the company's outstanding \$22,500,000 principal amount of first mortgage and first lien Series A four per cent bonds due March 1, 1952.

Q. Does that complete your investigation as to that particular refunding operation?

A. It does.

(Vol. LXXXIII, pp. 12301-12302.)

Q. As I gather the plan of your presentation of rate of return study, it consists in effect of two parts; one, Part 1 which might be called general background material; and then Part 2 which is that which is directly and particularly applicable to the case in which the exhibit is being offered.

A. That is in connection with natural gas companies, yes.

Q. Yes.

A. Correct.

Q. That is, you would use this Part 1 which is in Exhibit 225, in any rate case whether electric or gas, before the Federal Power Commission?

A. That is true.

Q. And so I say it consists of what I say is back-ground material. I don't know what you call it.

A. I have the same view of it.

Q. It is a lot of general information that you feel is pertinent but the direct and particular data on natural gas companies is contained in Part 2?

A. Well, I don't mean in answering that question to minimize the significance of Part 1. I think Part 1 is essential to an understanding of Part 2.

Q. You would use it, though, in an electric case just the same as in a gas case?

A. That is correct.

Q. As I understand it, in presenting these studies you do not express an opinion as to what percentage of return a fair rate of return to be?

A. That is true. I have not been instructed to recommend a specific rate of return. I have merely been instructed to prepare a study which contains the facts and factors which should be considered in arriving at such a determination on the part of the Commission.

(Vol. LXXXIII, pp. 12307-12308.)

Q. Now, on that schedule, Page 8 of Schedule 1, there is no company that is engaged solely in the gas business, either manufactured or mixed gas?

A. That is correct.

Q. Then with respect to the rating AA on the following page, that is again true, is it not?

A. It is.

Q. And the same thing is true with respect to rating A bonds on the succeeding page?

A. That is correct.

Q. And then when we come to the Baa bonds I believe the only company that is in the gas business solely is the Peoples Gas, Light and Coke Company?

A. That is correct.

Q. Now, that is the distributing company that distributes mixed gas in the city of Chicago, Illinois?

A. It is.

Q. And is one of the largest gas distributing companies in the United States, is it not?

A. I believe it is the largest mixed gas distributor.

Q. At any rate, it is in the second largest city in the United States?

A. That is correct.

Q. So that Moody's, in selecting for their investors service, a group of the bonds of the four ratings shown, have included only one company that receives its revenue only from the sale of gas?

A. That is so.

Q. And that happens to be in the lowest rating of those groups?

A. Yes.

(Vol. LXXXIII, pp. 12311-12312.)

Q. I take it it is your opinion that cost of money as represented by bonds sold by a natural gas pipe line company is the best source of information as to the cost of that capital for such companies?

A. In a general way the answer is yes.

Q. In answer to my question a little while ago you said that my question assumed there were no natural gas pipe line bonds available and that was a premise to your dis-

cussion, so from that I adduce that you consider the best source of comparison what actually has been done with natural gas pipe line bonds by companies engaged in that business and actually issued?

A. I answered that question by saying in a general way, yes. My reason for that was simply that if we were to encounter a condition where bonds of natural gas pipe line companies were outstanding in the hands of the public and were selling above call price but were not refunded; when an opportunity for refunding was here, then the figures that you would get as yields on natural gas pipe line company bonds would not necessarily represent the lowest bond money cost available.

Q. Well, Chart 1 shows not the bond money cost to the companies when the issue was put out, but the investors appraisal of the return on market price, doesn't it?

A. It does; it shows yield to the public.

Q. You could do the same thing with respect to natural gas pipe line bonds if they were sold in the market?

A. Yes, but it would be necessary to analyze market transactions to determine upon what basis the bonds were being traded as to price.

(Vol. LXXXIII, pp. 12316-12317.)

A. That is right. Chart 1 contains a list of what purports to be 120 bonds of three classes of industry, public utilities, industrials, and railroads. The yields are shown by rating groups. In Chart 4 we take only the bonds of the forty public utilities and show those bonds by rating groups.

Q. Here again the only company that is exclusively in the gas business is the Peoples Gas, Light & Coke Company?

A. It is the same company that appeared in the other place.

Q. In neither of those lists has Moody included any natural gas pipe line company bonds.

A. That is correct.

(Vol. LXXXIII, p. 12321.)

Q. You have in addition to those which you mentioned, those three which you mentioned as being not of such good

investment opportunities; the companies that distribute electricity in Boston, Cleveland, Chicago, Baltimore, Detroit, and Hartford, Connecticut. Isn't that as conservative, sound and excellent a group of electric operating utilities as you can find?

A. As I said before, if you were to give consideration to the quality of issues in your compilation that was presented to me as to common stocks and then were to do the same thing as to bonds, then the compilation might have some significance, but otherwise I just can't express any opinion about the results that you have obtained here.

Q. You haven't answered my last question as to the character of the group of electric companies in those cities I mentioned.

Will you read the question so Mr. Knapp can answer it, Mr. Reporter?

(The question referred to was read by the reporter, as set forth above.)

By Mr. Dougherty:

Q. Do you understand the question, Mr. Knapp?

A. Yes, sir. If you will just permit me to consider that moment.

Q. Yes.

A. I consider that group as a good quality group on the average.

Q. You could find few companies that are better?

A. Mr. Dougherty, all of the companies that you can find are on this schedule as to my knowledge.

Q. Well, now, you then attribute my attempt at mathematical computation as an interesting phenomena if true?

A. That is correct.

Q. Will you read them off for the years I have indicated so we will have them in the record just in case somebody agrees with me and not with you?

A. How would you like these figures read?

Q. Suppose you let me read them and you can confirm them.

A. Very well.

Q. As shown on Schedule 6, the weighted average of bond yields for public utility companies, and as shown on

Schedule 8, the average yield for common stocks shown on that schedule for the years as I have indicated are as follows:

For 1929, bonds 5.37; stocks 4.06; total 9.43;

For 1930, bonds 5.11; stocks 4.59; total 9.70;

For 1931, bonds 4.65; stocks 5.95; total 10.60;

For 1932, bonds 5.66; stocks 7.74; total 13.40;

For 1933, bonds 4.95; stocks 7.02; total 11.97;

For 1934, bonds 4.81; stocks 7.57; total 12.38;

For 1935, bonds 3.92; stocks 7.32; total 11.24;

For 1936, bonds 3.56; stocks 5.89; total 9.45;

For 1937, bonds 3.56; stocks 6.77; total 10.33;

For 1938, bonds 3.49; stocks 7.42; total 10.91;

For 1939, bonds 3.45; stocks 7.04; total 10.49.

(Vol. LXXXIII, pp. 12335-12337.)

* * *

Q. Now, if a company has no debt or no preferred stock, normally the earnings-price ratio on that company would be lower than if it did have debt and preferred stock ahead of it?

A. Normally, yes.

Q. That is what you get, then, is a general overall picture where there is any common stock outstanding?

A. That is right.

Q. And where you have bonds or preferred stock you have from the earnings-price ratio, you get the position—the inferior position that the common has?

A. If you don't intend to characterize the word "inferior." Common stock, of course, is inferior to bonds and preferred stock.

Q. I will say "subordinate" instead of "inferior."

A. Subordinate, yes.

Q. So where you have a company that has only common stock outstanding, you really get a better overall picture of investor appraisal of that company's position from the

common than you do from the common where there are these issues of bonds and preferred stock?

A. Well, I don't agree as to that, Mr. Dougherty, about your statement that you get a better overall picture. If by that you mean that your overall rate, cost of money is lower, I don't agree.

Q. I didn't mean it would be lower in this sense that you have considered the cost of money for bonds and cost of money for preferred stock and cost of money for common, but I was directing my question solely to the significance of the earnings-price ratio of common stock between a company that had nothing but common and a company that had both bonds and preferred stock outstanding.

A. Generally speaking, if you limit your comparison to common stock alone, you will find a lower earnings price ratio for the company which had only common stock outstanding.

Q. Now, Schedule 9 which is headed "New Corporate Issues in the United States, all Public Issues and Public Utility Issues," is it not a fact that that schedule shows that of the financing done since 1934, the principal amount has been refunding rather than for new capital?

A. Yes.

Q. And I note that on Schedule No. 9, Page 4, you quote from the Commercial and Financial Chronicle—or, rather, you don't quote from it, you refer to it and make this notation, that that periodical does not include natural gas pipeline companies that are not engaged in retailing to general consumers within the category of public utility issues?

A. That is true.

Q. Do you know why that Commercial and Financial Chronicle does make that classification of natural gas pipelines?

A. No, I do not know why.

Q. On Schedule 10, where you have a listing or compilation of electric operating utility bonds sold from 1935 to 1939, I take it those are, as you say, only electric companies and do not include any companies that are engaged solely in the gas business?

A. That is correct.

Q. And again on—well, all through Schedule 10—I should say Schedule 10-A, that same situation holds, does it not?

There are no companies there that are engaged solely in the gas business?

A. That is correct.

Q. Where you have shown in these tables the yield to the purchaser, that I take it does not represent exactly the cost of the bond money to the company?

A. It does not represent cost to the company.

Q. So that in order to know what the cost to the company would be there would have to be something added to what you show as yield to the purchaser?

A. That is correct.

Q. In all of Schedule 10-B, it again contains no company in the gas business only?

A. That is correct.

Q. The same thing is true with Schedules 11 and 11-A?

A. That is correct.

Q. Are there any bonds outstanding of the Indianapolis Power and Light Company, which company is referred to on Schedule 12, as having recently sold an issue of common stock in 1940?

A. I can't imagine it not having bonds, but let me see. I have here the Banking Quotation Record, issue of February 6, 1941, which on the New York curb exchange quotations indicates that the Indianapolis Power and Light has 3 3/4 per cent bonds due in 1970 outstanding.

Q. Was the quotation then about par, or what was it?

A. January 31, 1941, bid 107, ask 108.

Q. And what yield would that result to the purchaser?

A. That would be a yield of somewhere between 2.85 and 2.90 per cent.

Q. Now, having that yield in mind and having in mind the earnings-price ratio as shown on Schedule 12 for the Indianapolis common stock, which you show as 8.4 in comparison of those two figures, it would indicate, would it not, that the common stock purchaser is demanding almost three times return on his purchase of common stock as the purchaser of bonds of the same company demands for interest yield?

A. Well, you will note on Schedule 12 that for the year 1939 Indianapolis Power and Light had only 33.95 per cent of its gross income available for common stock. I think that explains that high ratio.

Q. But in that situation the statement I made is correct, with the situation of that company?

A. Yes. If its bonds are reasonable in proportion to the property account, there is no reason why the bonds could not have a good rating and a good yield.

Q. So you have all the way through this situation of investors' appraisal a fluctuating rate which is demanded depending upon the percentage of bonds, percentage of common stock, amount available of gross for fixed charges on bonds and dividends on common?

A. Oh, yes, that is one of the indicators. I might put it this way: coverage is one of the indicators of risk.

(Vol. LXXXII, pp. 12339-12343.)

Q. Well, I note on Chart 12 where you show the trend of corporate earnings for industries, utilities and railways, that you have not put on that chart any separate line with respect to the gas industry, either those engaged in distribution of natural or mixed gas, or natural gas pipe line companies.

A. I would like to do that right now.

Q. That's okay with me.

A. I refer you to my direct testimony at the top of Page 46 relating to Chart 12, at which place you will see a comparison of five electric utilities—the five electric utilities included among the thirteen utilities on Chart 12, with the thirteen utilities as to index as to net earnings based on the year 1926 as equal to 100 per cent.

Now, statistics are available for the natural gas industry from which an index based on the year 1931 as 100 per cent can be constructed. In order to make a comparison, however, it will be necessary to reconstruct the index of earnings for the thirteen utilities and the five electric utilities shown on Page 46 of the written testimony to a 1931 base year.

I have done that and I will read the comparative figures for the electric utilities and for the natural gas industry into the record.

Q. Will you first state why you have to reconstruct it for the year 1931?

3. Because the available data on the natural gas industry does not go back beyond that year.

Well, isn't that also because of the fact that most of these long distance pipe line companies have come into existence since 1928 and therefore that has created a new type of business in the natural gas industry that did not exist prior to that date?

A. Yes, to the extent that you refer only to pipe line companies. Of course, I think there has been distribution of natural gas probably for a few years, at any rate, prior to 1928.

Q. I can assure you it has been since 1880. You go ahead and read the figures.

A. The figures, then, are as follows:

1931, the net earnings of the five electric utilities—and when I refer to electric utilities hereafter I refer to those five—were for 1931, the index for that year being 100, the index for both the electric utilities and the natural gas industries would be 100.

In 1932 the index for electric utilities was 78; for natural gas industry, 86.

For 1933, for electric utilities, 65; for natural gas industry, 53.

For electric utilities in 1934, 62; for natural gas industry, 61.

For the electric utilities in 1935, 69 and for natural gas, 110.

For 1936, electric utilities, 74; for natural gas, 135.

In 1937, for electric utilities, 86; for natural gas industry, 146.

For 1938, electric utilities, 76, and for natural gas industry, 121.

For 1939, electric utilities, 89, and for natural gas, 141.

Q. Now, you have used there under the electric utilities the five same companies each year?

A. That is correct.

Q. So that what you get is a relationship of the— is it net or gross?

A. Net income.

Q. Of the net earnings of five companies. Now, what you have got so far as the natural gas industry is concerned, however, is all companies reporting to the American Gas Association?

A. That is correct.

Q. And let me point this out—let me ask you here if you know about this: that within the period of time that you speak, the Detroit changed from—changed over from manufactured gas, so that it almost tripled between 1931 and 1940.

A. That is correct.

Q. And that would all have—what you are doing in that comparison is comparing five companies and only the natural growth of those five electric companies and you are comparing with that the natural gas industry which has multiplied, company by company, and taken over a lot of business that was formerly under the manufactured gas business, haven't you—what you are attempting to do?

A. That is true, Mr. Dougherty, but the mere growing of an industry does not increase its growth of net income. It may increase its gross revenue.

Q. Well, when you have three pipe lines instead of one, and each one of them is making money, you will have more net income from the three than you would have from the one?

A. In talking about the pipe line companies, yes.

Q. That's what I am talking about.

A. Yes.

Q. Do your figures for 1931, 1932 and 1933 include all of the natural gas business that was done in these communities that subsequently changed to natural gas?

A. It does.

Q. You have added them in?

A. I haven't added them in, the American Gas Association did that.

Q. What compilation of statistics have got that in?

A. The annual statistics of the natural gas industry in 1939, statistical bulletin No. 41, dated October 1940, American Gas Association.

Q. Now, that table you are speaking of lumps both manufactured gas revenues and net income along with that from the natural gas business, doesn't it; that is, they take for the years prior to the time these companies that formerly were distributing manufactured gas and put those revenues in and carry them all the way forward through to 1939 in the same manner as if they had been received for natural gas?

A. That is correct, yes.

Q. So after all, what you have got in the figure you have read from is a combination of revenues from manufactured gas for a number of years and then revenues for natural gas for a succeeding number of years?

A. That is correct.

(Vol. LXXXIII, pp. 12345-12349.)

Q. Then your next Schedule No. 2 which is the statistics on dollars which you referred to before, that of course would reflect such additional sales as these pipe lines made to industrial customers and new groups where no gas had been distributed before?

A. You mean for natural gas?

Q. Yes, for natural gas.

A. Yes, I think that is correct.

Q. So we have had during that last decade a condition in the natural gas industry of growth that was based on different facts than growth that might have taken place in the electric industry in that same period?

A. Well, I just don't know what—

Q. I mean this: In 1930 practically all of the communities that resided in the United States did have electric service and the growth that took place in that period would be increased consumption by the people who lived there or by the industries there rather than the installation of electric service in the areas where there had been no such previous service?

A. Well, except for the increase in rural sales, that might be so.

Q. But there is a different situation of natural gas where large cities such as Denver, Detroit and others, that formerly had distributed manufactured gas, then, changed

over to natural gas, and that would bring a large group of customers in in a short period of time for the total number of customers being served with natural gas?

A. That is right.

(Vol. LXXXIII, pp. 12364-12365.)

Q. So again here these statistics represent a growth or new business as distinguished from merely a growth of territory previously occupied?

A. I just don't quite get your distinction there. Do you mean growth or new business?

Q. Business in addition, new business in territories not previously served by natural gas as distinguished from additional sales by companies occupying territories and selling gas there during that same period.

A. Of course, these figures give effect to both situations.

Q. Oh, yes, quite so, but I am saying that a substantial part of it represents the new sales of gas where natural gas had never been sold before.

A. Yes, but we don't have a situation where natural gas is supplanting some form of service other than gas. We still have gas in there and to that extent your sales of natural gas, in volume can't be said to reflect increases of totally new business that was never had before.

Q. You are familiar with the fact, are you not, Mr. Knapp, that the volumes of natural gas sold by the distributing companies which formerly distributed manufactured gas increased substantially within the period of the first five years when the changeover was made?

A. That is undoubtedly true. What I am point out is there was some volume there to begin with.

A. Oh, yes, but if those companies had continued to distribute manufactured gas, those increases would not have resulted, would they?

A. Probably not, because natural gas is cheaper than manufactured gas.

Q. And you bring in house heating which was not done formerly?

A. That is correct.

Q. You take the trends in manufactured gas in cases

like Consolidated Edison in New York. They have not shown the same type of increase from 1936 to 1939 as these statistics indicate for natural gas, have they?

A. That is true.

Q. It is the changeover to natural gas that increases the volume. On that same chart you show transported in interstate commerce three times as much gas in 1939 as in 1926, do you not?

A. That is correct.

Q. That indicates long-distance transportation?

A. That is right.

Q. And again you go from 23 states where gas was consumed in 1926 to 35 states in 1939. That again indicates, does it not, a tremendous area where natural gas was never served before and is now being served?

A. That is correct.

Q. And those are the significant factors in interpreting the statistics, are they not?

A. The statistics reflect that factor, if you want to call it a factor.

(Vol. LXXXIII, pp. 12367-12370.)

Q. Panhandle Eastern, whose bonds you said were rated A, and has this low rate of interest, around three per cent on its long-term debt, has a reflection in the people who buy its common stock, however, of rather a high earnings-price ratio?

A. Well, there are several reasons for that, Mr. Dougherty.

Q. Well, first the fact is so?

A. It is so.

Q. I assume if there were no reasons for it it would be something different.

A. I would like to explain that reason right now in answer to your question.

Q. That's all right, go ahead.

A. In view of Panhandle Eastern Pipe Line Company's earnings record, it has not been a very impressive record. It was not until 1936 when the Detroit market was opened to the company that it began to even show a profit. In the second place, the company has outstanding 11 million dollars in par value preferred stock of which with respect to

40 million dollars the stock is participating with common stock in earnings available for distribution as dividends. In the third place, Panhandle Eastern has been involved in litigation for the last several years with respect to its control.

Q. Now, with respect to the market situation, there is no indication now that it has—having this large market around Detroit, that its business will not be maintained on the same level which it has experienced for the last couple years.

A. That may be, but its record has not been consistent in the past.

Q. Well, it is consistent in this fact that it was low for a long while and as soon as it got the market, why, it started to boom rather rapidly, didn't it? That is, you have to more than just see the figures on paper to understand what the situation is, don't you, Mr. Knapp?

A. I think an investor will understand it is better off with its Detroit market than it would be without it, but at the same time, the circumstances peculiar to that company which I have pointed out operate in my opinion to keep that earnings-price ratio above the level which it could attain.

Q. Now, with respect to Memphis Natural, there is a company that has very little debt outstanding and correspondingly its per cent of gross revenues that would be available for dividends on common stock would be relatively high, wouldn't it?

A. That is true.

Q. That is, having in mind the discussion we had this morning about the electric company common stocks.

A. That is true, but with respect to Memphis Natural gas, I'd like to read into the record its record of earnings per share since 1929.

1929, 7 cents; 1930, 43 cents; 1931, 66 cents; 1932, 36 cents; 1933, 33 cents; 1934, 25 cents; 1935, 22 cents; 1936, 35 cents; 1937, 47 cents; 1938, 55 cents, later revised to 64 cents; and 1939, 65 cents; a record which has certainly been remarkable for its lack of stability during this period of time.

Q. Now, of course, you recognize that Memphis Natural did not begin business until about 1929—1928—along in there?

A. Yes, I have a note here that its 18-inch line from the Monroe field to Memphis was constructed in 1928.

Q. So you wouldn't expect it to start off and make the same money in the first six months that it makes after its market has been built up for six or seven years?

A. No, I don't expect it in the first year.

Q. As a matter of fact, if you would examine the records of all of these natural gas pipe line companies you would find that the first two or three years have been lean years in beginning to build up the line and it has taken four or five years to get the load on the line?

A. That may be true with respect to the first few years, but these conditions I have pointed out have persisted for a longer period of time than that.

Q. It took some of them longer to build up the market than others?

A. Whatever the cause was, the earnings record was not a favorable one.

Q. Of course, all of these earnings are included in these statistics which you have quoted from the American Gas Association which shows this tremendous growth in earnings during the last several years?

A. Well, I don't know how that relates to these particular companies.

Q. You don't know whether they report or not to the American Gas Association?

A. Oh, yes, the figures are included in there, but the effect on the total is something I am not prepared to say.

Q. Well, I say, they are included. Now let's take the El Paso Natural. What is your explanation of instability for that company?

A. Well, taking a look at the record on that particular company, we find that that company was unable to pay its preferred dividends from 1932 to 1936, but it did pay those dividends clearing up arrears in 1936. The record shows that the initial dividend on the common stock was paid on December 29, 1936, that the next dividend was paid in 1937, \$1.80 regular, 20 cents special, and that following that date it paid 50 cents quarterly through 1938 and continued paying that dividend through 1939, and again we have a company whose earnings record has not been too favorable.

Q. That company started business in 1932, didn't it?

A. I don't think so. According to my information it constructed its pipe line to El Paso, Texas in 1929.

Q. And made an extension of some considerable size in 1932, is that it? Do you have any information on that?

A. Well, I can't give you the precise date, but the line was later extended from El Paso to Douglas, Arizona and from there to Tucson and from there to Phoenix.

Q. You don't have the date of that?

A. I don't have that.

Q. That increased its business considerably, did it not, Mr. Knapp?

A. Well, the indication I have is that the deliveries in cubic feet began to show a marked increase in 1934.

Q. Since that time—since 1935, at any rate, the earnings have been fairly steady and substantial for that company, haven't they?

A. I would say probably from 1937 that condition has obtained.

Q. And having established their load, you have no indication there that there will be any change in that result?

A. No, sir, I have no indication of that. Here again we have a company whose record in the past has not been very favorable and which now is beginning to reach a favorable status.

Q. Well, that, of course, is true with a great many long distance pipe lines, is it not, Mr. Knapp? You don't mean by that, do you, that you attribute the same result from that fact as if an electric company that has been in business for 50 years in a community had shown poor earnings over the last ten years?

A. No, I attribute it to, more than anything else, the fact that most of the natural gas pipe-line companies which have been the most profitable ones have not had common stock outstanding in the hands of the public.

Q. Well, that isn't the thing that causes some of them to have business and some of them not to have business, does it?

A. It isn't the thing that causes them to have business, perhaps, but the fact remains that there are many more companies which have enjoyed a consistent record of favorable earnings which have no common stock in the hands of the public. There is, therefore, no way by which you can appraise the public's attitude toward those particular securities.

Q. That is because, of course, there are none outstanding?

A. That is correct.

Q. And it so happens those pipe lines for that reason, either management or territory or whatever it may be, built their load up a little quicker than others?

A. Well, that is the assumption.

Q. Now, what about the Interstate Natural Gas Company? There has been stock outstanding in the hands of the public since 1926 or '7, hasn't there, on that company?

A. For Interstate, my indications are that that company constructed its 48- to 20-inch pipe line from the Monroe field to Baton Rouge in 1926. I have been unable to find any published earnings record prior to 1933. Beginning with that year, the earnings per share were 35 cents; in 1934, 71 cents; in 1935, \$1.16; in 1936, \$1.82; 1937, \$2.50; 1938, \$2.13; 1939, \$2.11.

Also with respect to Interstate, the initial dividend on that stock, 25 cents, was paid on December 15, 1930. The next dividend paid June 15, 1931 for 25 cents, and no dividends thereafter until December 15, 1936 when \$1.75 was paid; 1937, \$2.60; 1938, it dropped down to \$1.75, and in 1939 it increased slightly to \$2.00, which appears to me to indicate that company's record of earnings has been erratic and its dividend policy has been erratic.

Q. You observed, I suppose, that up to 1936 the company paid off all of its bonded debt?

A. Well, I know that it had none outstanding in 1937.

Q. Well, did you observe that that had taken place and its surplus increased from 1926 up to that time by that amount?

A. I am sorry to differ with you, Mr. Dougherty, but surplus does not increase for the purpose of paying off bonds.

Q. But it does by virtue of not paying out dividends?

A. It may be by virtue of various things. Funds for paying off bonds could be derived from provisions for reserves for depreciation or depletion.

Q. When you do not pay dividends your surplus will increase more rapidly than if you pay dividends out?

A. Assuming that you have earnings, Mr. Dougherty.

Q. Well, you can't pay dividends out without earnings.

A. You say assuming that you paid no dividends your surplus will increase.

Q. Have you any information on Interstate Natural Gas Company back in 1936 to answer what I have asked you about the surplus?

A. Well, you asked me a moment ago if they had not built up enough surplus to pay off its bond issue and my answer is that they don't pay off bond issues by building up surplus.

Q. You pay off by taking money out of the receipts of the company?

A. That's right.

Q. Do you know whether that was done in that case?

A. I presume it must have done so.

Q. And that would naturally result in some increase in surplus if earnings during that year were so utilized?

A. Well, assuming that we know that the company did have some earnings, it is undoubtedly true that a surplus may have increased. I don't know without having seen the figures of the company.

Q. You don't think that was important to go back and find out beyond 1935 what they paid?

A. I don't think it is absolutely essential. I have read you the earnings record of the company which I think speaks for itself. As to whether they paid off their bonds or did not pay off their bonds, I don't think that affects their situation particularly.

Q. It does with respect to whether they pay dividends or not. You gave some indication of not paying dividends as to that having a bad market effect.

A. Well, I think that an inconsistent, erratic dividend policy does have an unfavorable market effect.

Q. Now, how many years do you have to go back to have a consistent dividend policy?

A. Well, I just don't know what you mean, Mr. Dougherty.

Q. Well, the company has had consistent dividend policy for four or five or six years?

A. I wouldn't say it was exactly consistent.

Q. To be consistent, do you have to pay the same amounts each year?

A. It shouldn't be subject to downward fluctuations. I don't think, in order to make it attractive.

Q. Now, you apply that to all other corporations, is

same; that when they have some decrease in their annual dividends, why, that has a very deteriorating effect?

A. I think it does on a good many investors.

Q. Is it your idea that for one of these natural gas pipe line companies which has a common stock, that would truly represent an accurate appraisal of purchaser interests, that it should have started paying dividends the first year it was in operation and continue to pay at least the same or more each year thereafter?

A. Well, I can say this: A company, of course, may not be able to pay any dividends for the first year or two of its existence, but regardless of that fact, I think a fixed dividend policy has an effect on investors. Whether a company should or should not do a thing does not matter.

Q. It is true also of them that none of them began to pay dividends for four or five years after they started, isn't that true—these natural gas pipe line companies?

A. I wouldn't—well, with respect to those that I have cited, the dividends were paid not long after the companies were organized.

Q. Well, in any event you have used all the available material that there is and is there any difference in the commencing of dividends and the time of the beginning of the line that dividends were paid by these companies than these other natural gas pipe line companies where common stocks are not held by the public?

A. Read that, please.

(The question referred to was read by the reporter as set forth above.)

The Witness: I just don't understand that question.

By Mr. Dougherty:

Q. Do you know anything about the dividend record of other natural gas pipe line companies where common stocks are not held by the public?

A. Yes.

Q. Take the Panhandle Eastern. You had no common stock out until just recently. When did it first pay dividends on its common stock?

A. The first dividend paid by Panhandle Eastern was a stock dividend of \$28.26 per share. That was paid on March 25, 1936.

Q. That line was built when—1931, would you say?

A. Its line from the Amarillo field to Springfield, Illinois, was constructed in 1931.

Q. Now take this company—the Colorado Interstate Gas Company. Do you know when it paid its first dividend on its common stock? Do you know what year it was?

A. Yes, I have that information. The first dividend was paid on preferred stock in 1935, apparently cleaning up an arrearage on preferred stock.

Q. That was about the same thing as the El Paso Natural Gas Company. They cleared up their arrearage by not paying it for a number of years.

A. That is true.

Q. When was the first dividend paid on the common stock of the Colorado Interstate Gas Company?

A. 1936.

Q. And this company was constructed in 1928, so that is a longer period of time between the inception of the company and the payment of the dividend than any of those others?

A. Yes, but let me give you a summary of the rate at which Colorado Interstate and Canadian River were establishing earnings after 1928.

Q. Rate on what?

A. Earnings, utility income related to adjusted book cost of plant less reserve for depreciation and depletion as adjusted, plus working capital.

Q. That is the same figure put in by the Power Commission accountant, isn't it?

A. That is correct.

Q. It is already in the record. They show on their computation about an average of 15 per cent over the entire period.

A. Yes.

Q. You haven't any similar figures for El Paso Natural Gas Company, Mr. Knapp?

A. No, I wouldn't think I would be in a position to furnish the figures on El Paso Natural Gas Company.

Q. You haven't them for the Interstate Natural Gas Company?

A. I haven't similar figures because they are not available.

Q. The similar figures you have for Colorado Interstate

and El Paso Natural Gas Company indicate no preferred dividends were paid by Colorado Interstate until 1935 and no common until 1936. Now, isn't that an erratic dividend policy up to that date?

A. That might have some effect on it; that is, if the preferred and common stocks were outstanding in the hands of the public, but they have been held by holding companies.

Q. It is only with some other companies where earnings ratio has some effect but with Colorado Interstate it has no effect?

A. That is not the way I interpret it at all.

Q. That is what you said, Mr. Knapp, practically. The very thing you say affected the high ratio price of El Paso Natural Gas Company you say now would have no such effect if the stock of Colorado Interstate were outstanding, isn't that just what you said?

A. The situation is entirely different, because El Paso Natural Gas Company's stock has been outstanding all this time. Colorado Interstate's stock has not been outstanding all this time. We haven't had an opportunity to see what effect, if anything, Colorado Interstate has upon the investor's appraisal of these securities.

Q. People would react differently here under the same set of circumstances than they would for the El Paso Natural Gas Company?

A. It would seem to me in view of the earnings record I have pointed out that if that stock of Colorado Interstate Gas Company had been held by the public those dividends would not have been in arrears such a long period of time.

Q. Of course, that is your assumption?

A. It is an assumption, but—

Q. Let's take the Colorado Interstate Gas Company. In the first place, you have accepted their earnings on a certain basis that the company didn't publish?

A. In connection with Colorado Interstate?

Q. In connection with Colorado Interstate.

A. Yes, I have.

Q. That is, they were put in by the Commission's witnesses and were not furnished by the company and not put in by the company's witnesses?

A. That is correct.

Q. Let's take Interstate Natural Gas Company. They

didn't pay a dividend in substantial amount until 1935 or 1936, did they?

A. They paid a dividend of 25 per cent in 1930 and again in 1931.

Q. Well, then, they skipped until 19 what?

A. 1936.

Q. So that they even paid dividends before Colorado Interstate did? You can answer that, Mr. Knapp.

A. I can answer it, Mr. Dougherty, but it has no meaning whatsoever.

Q. That is up to somebody else to decide. You answer my questions and then somebody else will decide whether they will have meaning. We want the facts here.

A. I am trying to—

Q. Isn't it a fact that that company paid dividends sooner after its inception than did the Colorado Interstate Gas Company.

A. It did but that doesn't explain why.

Q. Oh, not to you, I know, but that is a fact. Do you still believe that the failure to pay dividends and to have an erratic dividend policy has an effect upon investor appraisal?

A. I think it has an important effect, but I don't think it is the most important effect.

Q. It wouldn't have any effect on Colorado Interstate Gas Company, although it does have an effect upon the Interstate Natural Gas Company?

A. I don't follow your line of reasoning.

Q. Do you think it has had an effect upon Interstate Natural Gas Company's market price ratio?

A. I can't measure the effect but I think it may have had some effect. I think the earnings feature is the more important of the two.

Q. Of course you have no figures that have been furnished to you by the Power Commission's witnesses as to what their computed earnings on certain estimated bases would be for that company, have you?

A. No, I do not.

Q. You are unable to get any market reaction other than the ones of the stocks you have listed here?

A. That is correct.

EXHIBIT 225A

NATIONAL GAS INDUSTRY IN TWO SECTOR STATES
NATIONAL REVENUE FROM SALES TO CONSUMERS, GAS SALES TO CONSUMERS (M.C.F.), AND WEIGHT OF GAS THIS YEAR
Years 1909 to 1939, inclusive

Year	Total	Domestic (1)		Industrial and Electric Generation		Total	Domestic (1)		Industrial and Electric Generation		Total	Average Annual Revenue Per Customer (2)		Average Annual Revenue Per Customer (2)		Total	Average Annual Revenue Per Customer (2)		Average Annual Revenue Per Customer (2)	
		Commercial	Industrial and Electric Generation	Commercial	Industrial and Electric Generation		Commercial	Industrial and Electric Generation	Commercial	Industrial and Electric Generation		Commercial	Industrial and Electric Generation	Commercial	Industrial and Electric Generation		Commercial	Industrial and Electric Generation	Commercial	Industrial and Electric Generation
1909	314,290,000	283,144,000	31,146,000	120,207,000	10,579,000	109,628,000	0.467	0.559	0.467	0.559	0.467	0.559	0.467	0.559	0.467	0.559	0.467	0.559	0.467	0.559
1910	344,971,000	317,745,000	27,226,000	134,774,000	11,269,000	123,505,000	0.692	0.598	0.692	0.598	0.692	0.598	0.692	0.598	0.692	0.598	0.692	0.598	0.692	0.598
1911	374,441,000	347,745,000	26,696,000	149,606,000	12,695,000	136,911,000	0.695	0.601	0.695	0.601	0.695	0.601	0.695	0.601	0.695	0.601	0.695	0.601	0.695	0.601
1912	404,911,000	378,215,000	26,696,000	164,437,000	14,121,000	150,316,000	0.711	0.594	0.711	0.594	0.711	0.594	0.711	0.594	0.711	0.594	0.711	0.594	0.711	0.594
1913	435,381,000	408,685,000	26,696,000	179,268,000	15,551,000	163,717,000	0.728	0.607	0.728	0.607	0.728	0.607	0.728	0.607	0.728	0.607	0.728	0.607	0.728	0.607
1914	465,851,000	439,155,000	26,696,000	194,099,000	16,981,000	177,118,000	0.744	0.620	0.744	0.620	0.744	0.620	0.744	0.620	0.744	0.620	0.744	0.620	0.744	0.620
1915	496,321,000	469,625,000	26,696,000	208,930,000	18,411,000	190,519,000	0.760	0.633	0.760	0.633	0.760	0.633	0.760	0.633	0.760	0.633	0.760	0.633	0.760	0.633
1916	526,791,000	500,095,000	26,696,000	223,761,000	19,841,000	203,920,000	0.776	0.646	0.776	0.646	0.776	0.646	0.776	0.646	0.776	0.646	0.776	0.646	0.776	0.646
1917	557,261,000	530,565,000	26,696,000	238,592,000	21,271,000	217,321,000	0.792	0.659	0.792	0.659	0.792	0.659	0.792	0.659	0.792	0.659	0.792	0.659	0.792	0.659
1918	587,731,000	561,035,000	26,696,000	253,423,000	22,701,000	230,722,000	0.808	0.672	0.808	0.672	0.808	0.672	0.808	0.672	0.808	0.672	0.808	0.672	0.808	0.672
1919	618,201,000	591,505,000	26,696,000	268,254,000	24,131,000	244,123,000	0.824	0.685	0.824	0.685	0.824	0.685	0.824	0.685	0.824	0.685	0.824	0.685	0.824	0.685
1920	648,671,000	621,975,000	26,696,000	283,085,000	25,561,000	257,524,000	0.840	0.698	0.840	0.698	0.840	0.698	0.840	0.698	0.840	0.698	0.840	0.698	0.840	0.698
1921	679,141,000	652,445,000	26,696,000	297,916,000	26,991,000	270,925,000	0.856	0.711	0.856	0.711	0.856	0.711	0.856	0.711	0.856	0.711	0.856	0.711	0.856	0.711
1922	709,611,000	682,915,000	26,696,000	312,747,000	28,421,000	284,326,000	0.872	0.724	0.872	0.724	0.872	0.724	0.872	0.724	0.872	0.724	0.872	0.724	0.872	0.724
1923	740,081,000	713,385,000	26,696,000	327,578,000	29,851,000	297,727,000	0.888	0.737	0.888	0.737	0.888	0.737	0.888	0.737	0.888	0.737	0.888	0.737	0.888	0.737
1924	770,551,000	743,855,000	26,696,000	342,409,000	31,281,000	311,128,000	0.904	0.750	0.904	0.750	0.904	0.750	0.904	0.750	0.904	0.750	0.904	0.750	0.904	0.750
1925	801,021,000	774,325,000	26,696,000	357,240,000	32,711,000	324,529,000	0.920	0.763	0.920	0.763	0.920	0.763	0.920	0.763	0.920	0.763	0.920	0.763	0.920	0.763
1926	831,491,000	804,795,000	26,696,000	372,071,000	34,141,000	337,930,000	0.936	0.776	0.936	0.776	0.936	0.776	0.936	0.776	0.936	0.776	0.936	0.776	0.936	0.776
1927	861,961,000	835,265,000	26,696,000	386,902,000	35,571,000	351,331,000	0.952	0.789	0.952	0.789	0.952	0.789	0.952	0.789	0.952	0.789	0.952	0.789	0.952	0.789
1928	892,431,000	865,735,000	26,696,000	401,733,000	37,001,000	364,732,000	0.968	0.802	0.968	0.802	0.968	0.802	0.968	0.802	0.968	0.802	0.968	0.802	0.968	0.802
1929	922,901,000	896,205,000	26,696,000	416,564,000	38,431,000	378,133,000	0.984	0.815	0.984	0.815	0.984	0.815	0.984	0.815	0.984	0.815	0.984	0.815	0.984	0.815
1930	953,371,000	926,675,000	26,696,000	431,395,000	39,861,000	391,534,000	1.000	0.828	1.000	0.828	1.000	0.828	1.000	0.828	1.000	0.828	1.000	0.828	1.000	0.828
1931	983,841,000	957,145,000	26,696,000	446,226,000	41,291,000	404,935,000	1.016	0.841	1.016	0.841	1.016	0.841	1.016	0.841	1.016	0.841	1.016	0.841	1.016	0.841
1932	1,014,311,000	987,615,000	26,696,000	461,057,000	42,721,000	418,336,000	1.032	0.854	1.032	0.854	1.032	0.854	1.032	0.854	1.032	0.854	1.032	0.854	1.032	0.854
1933	1,044,781,000	1,018,085,000	26,696,000	475,888,000	44,151,000	431,737,000	1.048	0.867	1.048	0.867	1.048	0.867	1.048	0.867	1.048	0.867	1.048	0.867	1.048	0.867
1934	1,075,251,000	1,048,555,000	26,696,000	490,719,000	45,581,000	445,138,000	1.064	0.880	1.064	0.880	1.064	0.880	1.064	0.880	1.064	0.880	1.064	0.880	1.064	0.880
1935	1,105,721,000	1,079,025,000	26,696,000	505,550,000	47,011,000	458,539,000	1.080	0.893	1.080	0.893	1.080	0.893	1.080	0.893	1.080	0.893	1.080	0.893	1.080	0.893
1936	1,136,191,000	1,109,495,000	26,696,000	520,381,000	48,441,000	471,940,000	1.096	0.906	1.096	0.906	1.096	0.906	1.096	0.906	1.096	0.906	1.096	0.906	1.096	0.906
1937	1,166,661,000	1,139,965,000	26,696,000	535,212,000	49,871,000	485,341,000	1.112	0.919	1.112	0.919	1.112	0.919	1.112	0.919	1.112	0.919	1.112	0.919	1.112	0.919
1938	1,197,131,000	1,170,435,000	26,696,000	550,043,000	51,301,000	498,742,000	1.128	0.932	1.128	0.932	1.128	0.932	1.128	0.932	1.128	0.932	1.128	0.932	1.128	0.932
1939	1,227,601,000	1,200,905,000	26,696,000	564,874,000	52,731,000	512,143,000	1.144	0.945	1.144	0.945	1.144	0.945	1.144	0.945	1.144	0.945	1.144	0.945	1.144	0.945
1940	1,258,071,000	1,231,375,000	26,696,000	579,705,000	54,161,000	525,544,000	1.160	0.958	1.160	0.958	1.160	0.958	1.160	0.958	1.160	0.958	1.160	0.958	1.160	0.958
1941	1,288,541,000	1,261,845,000	26,696,000	594,536,000	55,591,000	538,945,000	1.176	0.971	1.176	0.971	1.176	0.971	1.176	0.971	1.176	0.971	1.176	0.971	1.176	0.971
1942	1,319,011,000	1,292,315,000	26,696,000	609,367,000	57,021,000	552,346,000	1.192	0.984	1.192	0.984	1.192	0.984	1.192	0.984	1.192	0.984	1.192	0.984	1.192	0.984
1943	1,349,481,000	1,322,785,000	26,696,000	624,198,000	58,451,000	565,747,000	1.208	0.997	1.208	0.997	1.208	0.997	1.208	0.997	1.208	0.997	1.208	0.997	1.208	0.997
1944	1,379,951,000	1,353,255,000	26,696,000	639,029,000	59,881,000	579,148,000	1.224	1.010	1.224	1.010	1.224	1.010	1.224	1.010	1.224	1.010	1.224	1.010	1.224	1.010
1945	1,410,421,000	1,383,725,000	26,696,000	653,860,000	61,311,000	592,549,000	1.240	1.023	1.240	1.023	1.240	1.023	1.240	1.023	1.240	1.023	1.240	1.023	1.240	1.023
1946	1,440,891,000	1,414,195,000	26,696,000	668,691,000	62,741,000	605,950,000	1.256	1.036	1.256	1.036	1.256	1.036	1.256	1.036	1.256	1.036	1.256	1.036	1.256	1.036
1947	1,471,361,000	1,444,665,000	26,696,000	683,522,000	64,171,000	619,351,000	1.272	1.049	1.272	1.049	1.272	1.049	1.272	1.049	1.272	1.049	1.272	1.049	1.272	1.049
1948	1,501,831,000	1,475,135,000	26,696,000	698,353,000	65,601,000	632,752,000	1.288	1.062	1.288	1.062	1.288	1.062	1.288	1.062	1.288	1.062	1.288	1.062	1.288	1.062
1949	1,532,301,000	1,505,605,000	26,696,000	713,184,000	67,031,000	646,153,000	1.304	1.075	1.304	1.075	1.304	1.075	1.304	1.075	1.304	1.075	1.304	1.075	1.304	1.075
1950	1,562,771,000	1,536,075,000	26,696,000	728,015,000	68,461,000	659,554,000	1.320	1.088	1.320	1.088	1.320	1.088	1.320	1.088	1.320	1.088	1.320	1.088	1.320	1.088
1951	1,593,241,000	1,566,545,000	26,696,000	742,846,000	69,891,000	672,955,000	1.336	1.101	1.336	1.101	1.336	1.101	1.336	1.101	1.336	1.101	1.336	1.101	1.336	1.101
1952	1,623,711,000	1,597,015,000	26,696,000	757,677,000	71,321,000	686,356,000	1.352	1.114	1.352	1.114	1.352	1.114	1.352	1.114	1.352	1.114	1.352	1.114	1.352	1.114
1953	1,654,181,000	1,627,485,000	26,696,000	772,508,000	72,751,000	699,757,000	1.368	1.127	1.368	1.127	1.368	1.127	1.368	1.127	1.368	1.127	1.368	1.127	1.368	1.127
1954	1,684,651,000	1,657,955,000	26,696,000	787,339,000	74,181,000	713,158,000	1.384	1.140	1.384	1.140	1.384	1.140	1.384	1.140	1.384	1.140	1.384	1.140	1.384	1.140
1955	1,715,121,000	1,688,425,000																		

COMPARATIVE ESTIMATED INCOME STATEMENT

NATURAL GAS INDUSTRY IN THE UNITED STATES.
COMPARATIVE ESTIMATED INCOME STATEMENT* FOR THE YEAR 1931 - 1939
(Thousands of Dollars)

	1939	1938	1937	1936	1935	1934	1933	1932	1931	Percent Change 1939-38
Revenue from Gas Sales to Consumers	8448,859	415,756	443,408	412,444	376,388	347,867	329,889	342,651	366,246	+ 8.0
Miscellaneous Operating Revenue	6,543	6,732	5,631	4,289	3,726	2,846	2,702	2,326	4,065	- 1.4
Total Operating Revenue	455,302	422,491	449,039	416,733	380,114	349,913	332,594	344,707	370,311	+ 7.0
Operating Expenses	233,353	215,808	229,417	205,033	195,759	191,753	189,256	182,350	199,968	+ 8.1
Maintenance	14,376	17,238	16,614	17,503	15,205	13,297	12,971	13,788	15,253	+ 95.4
Retirement, Deple., Depre. Exp.	59,298	51,882	53,885	47,090	43,712	42,339	39,911	44,364	40,734	+ 6.6
Taxes Incurred	44,594	39,968	41,312	37,506	31,930	31,142	29,268	30,679	29,995	+ 11.6
Total Revenue Deductions	347,021	324,896	337,228	307,132	286,606	278,531	267,406	268,182	286,290	+ 7.2
Utility Operating Income	107,681	97,595	111,811	109,601	93,508	71,382	69,188	76,525	84,061	+ 10.3
Non-Operating Income	4,236	4,141	5,388	5,001	5,702	5,599	5,322	5,860	7,776	+ 2.3
Gross Corporate Income	111,917	101,736	117,199	114,602	99,210	76,981	70,510	82,385	91,837	+ 10.0
Interest & Other Deductions	39,765	39,461	42,210	49,424	42,953	49,489	43,570	38,262	40,734	+ 0.8
Net Income Available for Dividends and Surplus	\$ 72,152	62,275	74,989	69,178	56,257	31,493	26,940	44,123	51,103	+ 15.9

Utility Plant (000 omitted) . . . \$2,414,490 2,441,840 2,414,484 2,369,490 2,345,384 2,330,984

* Companies formerly distributed manufactured gas but which were distributing natural gas at the beginning of 1935 have been included in the above tabulation for all nine years. The data shown above for 1931 to 1939 are therefore not comparable with data on the natural gas industry previously issued for those years.

** Includes leased property revenue.

Source of Data: Annual Statistics of the Natural Gas Industry in 1939, Bulletin No. 41, October, 1940,
issued by the American Gas Association.

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Year	Total Natural Gas Production (a)	Total Natural Gas Consumption (1) (b)	Natural Gas Transported in Interstate Commerce (2) (d)	Interstate Transportation, Per Cent of Total Consumption (1) (c) = (d) ÷ (b)	Number of States in which Natural Gas Was	
					Produced (3)	Consumed
1926	1,313,019,000	704,344,000	209,361,000	29.7	22	23
1927	1,445,428,000	751,702,000	194,217,000	25.8	24	25
1928	1,568,139,000	819,144,000	241,210,000	29.4	24	25
1929	1,917,693,000	951,261,000	324,779,000	34.1	26	27
1930	1,943,421,000	951,854,000	378,803,000	39.8	26	30
1931	1,686,436,000	917,488,000	330,307,000	36.0	2	35
1932	1,555,990,000	856,720,000	329,781,000	38.5	24	35
1933	1,575,474,000	872,159,000	344,652,000	39.5	24	35
1934	1,770,721,000	980,513,000	408,382,000	41.6	24	35
1935	1,916,595,000	1,087,898,000	462,224,000	42.5	24	35
1936	2,167,802,000	1,258,689,000	566,907,400	45.0	24	35
1937	2,407,680,000	1,410,636,000	687,428,000	48.7	24	35
1938	2,295,562,000	1,509,944,000	636,626,000	48.6	24	35
1939	2,435,000,000P	1,436,154,000P			Not Available	

P. Preliminary.

Source of Data:

Years 1926 to 1934, inclusive—Data compiled by U.S. Bureau of Mines, as represented at page 160 of record of hearing before a Subcommittee of the Committee on Interstate and Foreign Commerce, House of Representatives, 74th Congress, 2nd Session, on H. R. 11662 "To Regulate the Transportation and Sale of Natural Gas in Interstate Commerce and for Other Purposes", April 1936.

Years 1935-1936 - U.S. Bureau of Mines, "Minerals Year Book", 1937 and 1938 editions.

Year 1937 - U.S. Bureau of Mines, "Mineral Market Reports, No. M.M.S. 682", issued December 13, 1938.

Year 1938 - U.S. Bureau of Mines, "Mineral Market Reports, No. M.M.S. 772", issued December 13, 1939.

Year 1939 - U.S. Bureau of Mines, Preprint of Chapter 1 Natural Gas - "Minerals Year Book", 1940 editions.

(1) Excluding gas used for field operations and manufacture of carbon black. Natural gas used for latter purpose is used in the State in which it is produced.

(2) Excluding amounts transported to Canada and Mexico.

(3) Five states produce over 80 percent of total natural gas. These states, ranked according to volume of gas produced in 1939, are Texas, California, Louisiana, Oklahoma and West Virginia.

NATURAL GAS TRANSPORTED INTO STATES OF COLORADO AND WYOMINGYEARS 1929 TO 1938, INCLUSIVE

(M.C.F.)

TRANSPORTED INTO STATE OF COLORADO

Year	Total	From State of			
		Texas	Kansas	New Mexico	Wyoming
1929	12,654,000	12,563,000	-	91,000	-
1930	15,056,000	14,914,000	-	142,000	-
1931	16,051,000	15,779,000	165,000	106,000	1,000
1932	15,644,000	15,227,000	294,000	102,000	21,000
1933	15,095,000	14,638,000	292,000	112,000	53,000
1934	15,731,000	15,331,000	286,000	111,000	3,000
1935	16,908,000	16,433,000	338,000	137,000	-
1936	19,253,000	18,694,000	411,000	148,000	-
1937	20,511,000	19,928,000	421,000	161,000	1,000
1938	18,855,000	18,210,000	457,000	164,000	24,000
1939	-	-	-	-	-

Not Available

TRANSPORTED INTO STATE OF WYOMING

Year	Total	From State of		
		Texas	Colorado	Utah
1929	851,000	-	851,000	-
1930	439,000	-	439,000	-
1931	469,000	364,000	105,000	-
1932	611,000	396,000	215,000	-
1933	623,000	352,000	271,000	-
1934	459,000	316,000	143,000	-
1935	573,000	399,000	174,000	-
1936	669,000	506,000	163,000	-
1937	767,000	523,000	153,000	91,000
1938	665,000	481,000	91,000	93,000
1939	-	-	-	-

Not Available

Source: U.S. Bureau of Mines Publications

Years 1929 to 1931, inclusive, "Minerals Resources of the United States".

Years 1932 to 1937, inclusive, "Minerals Year Book".

Year 1938 Pamphlet of Chapter on Natural Gas - "Minerals Year Book" - 1940 edition.

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SCHEDULE NO. 5

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EXHIBIT 225A

SECURITIES OF NATURAL GAS COMPANIESSUMMARY ACCORDING TO CLASSES OF HOLDERS

<u>Company and Issues</u>	<u>Total Securities Outstanding</u>	<u>Held by</u>	
		<u>Public</u>	<u>Institutions Affiliates</u>
<u>Arkansas Louisiana Gas Co.</u>			
Bonds and Debentures:			
First Mtg. 2 3/4%, A, 1940-44	\$ 3,300,000 \$	-	\$ 3,300,000 \$
First Mtg. 3 1/2%, B, 1945-54	9,700,000	-	9,700,000
Debentures, 4 1/4%, 1955	6,500,000	-	-
	\$19,500,000 \$	-	6,500,000
Common Stock 298,988 Shs. Par \$20	14,949,400	\$13,000,000	6,500,000
Total	\$34,449,400 \$	-	14,949,400
	\$34,449,400 \$	\$13,000,000	\$21,449,400
<u>Canadian River Gas Co.</u>			
First Mtg. 6%	\$ 5,057,000 \$	-	\$ 5,057,000
Notes, 1940-48	1,348,254	-	1,348,254
Common Stock	1	-	-
Total	\$ 6,405,255 \$	-	\$ 6,405,255
<u>Chicago District Pipeline Co.</u>			
Notes	\$ 4,869,897 \$	-	\$ 4,869,897
Common Stock, 7,500 Shs. No Par	659,000	-	659,000
Total	\$ 5,528,897 \$	-	\$ 5,528,897
<u>Cities Service Gas Co.</u>			
Bonds, Debentures and Notes:			
First Mtg. 3 3/4%, 1947-54	\$20,000,000 \$	-	\$20,000,000 \$
Debentures, 5 1/2%, 1956	8,000,000	-	8,000,000
Notes Payable	13,000,000	-	13,000,000
	\$41,000,000 \$	-	\$33,000,000 \$
Common Stock 350,000 Shs. No Par	30,000,000	-	30,000,000
Total	\$71,000,000 \$	-	\$33,000,000 \$
	\$71,000,000 \$	\$33,000,000	\$38,000,000
Notes Payable of \$13,000,000 are secured by \$15,000,000 First Mtg. 3 1/4%, 1940-46.			
<u>Colorado Interstate Gas Co.</u>			
First & Coll. Trust 3 1/2%, 1948	\$ 8,865,000 \$	-	\$ 8,865,000 \$
Preferred Stock, 6%, Par \$100	2,000,000	-	2,000,000
Common Stock; 1,250,000 Shs. No Par	2,352,941	-	2,352,941
Total	\$13,217,941 \$	-	\$ 8,865,000 \$
	\$13,217,941 \$	-	\$ 4,352,941

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SCHEDULE NO. 5

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EXHIBIT 225A

SECURITIES OF NATURAL GAS COMPANIESSUMMARY ACCORDING TO CLASSES OF HOLDERS

<u>Company and Issues</u>	<u>Total Securities Outstanding</u>	<u>Held by</u>	
		<u>Public</u>	<u>Institutions Affiliates</u>
<u>El Paso Natural Gas Co.</u>			
Bonds and Notes:			
First Mtg. 3½, 1953	\$ 6,000,000	\$ -	\$ 6,000,000
First Mtg. 3½, 1953	3,000,000	-	3,000,000
	\$ 9,000,000	\$ -	\$ 9,000,000
Preferred Stock, 7%, Par \$100	1,479,700	1,479,700	-
Common Stock, 601,994 Shs. Par \$3	1,804,782	1,804,782	-
Total	\$12,284,482	\$3,284,482	\$ 9,000,000
\$3,000,000 First Mtg. 3½, 1953, were offered in 1940. Company also has recorded \$3,407,212 Premium on Common Stock.			
<u>Hope Natural Gas Co.</u>			
Common Stock, 279,693 Shs. Par \$100	\$27,969,300	\$ -	\$27,969,300
<u>Houston Gulf Gas Co.</u>			
Bonds, Debentures and Notes:			
First & Collateral, 6%, 1943	\$ 4,238,000	\$3,777,000	\$ 461,000
Debentures, 6½, 1943	1,850,000	1,453,000	397,000
Notes, 7½, 1945	1,500,000	-	1,500,000
	\$ 7,588,000	\$5,230,000	\$ 858,000
Preferred Stocks:			
7½, Series A, Par \$100	\$ 806,300	\$ 11,100	\$ 795,200
7½, Series B, Par \$100	1,500,000	1,000	1,499,000
	\$ 2,306,300	\$ 12,100	\$ 2,294,200
Common Stock, 517,008 Shs. No Par	\$ 5,170,080	\$ 21,160	\$ 5,148,920
Total	\$15,064,380	\$5,263,160	\$ 8,943,120
<u>Intestate Natural Gas Co.</u>			
Common Stock, 952,953 No Par	\$ 6,529,520	\$1,893,564	\$ 4,635,966
<u>Lone Star Gas Co.</u>			
Notes	\$16,600,000	\$ -	\$16,600,000
Common Stock, 540,000 Shs. No Par	28,113,220	-	28,113,220
Total	\$44,713,220	\$ -	\$44,713,220
<u>Kentucky West Virginia Gas Co.</u>			
Preferred Stocks:			
5½ Cum. First, Par \$100	\$ 2,937,500	\$ -	\$ 2,937,500
7½ Cum. Second, Par \$100	5,407,500	-	5,407,500
	\$ 8,345,000	\$ -	\$ 8,345,000
Common Stock 100,000 Shs. No Par	1,304,715	-	1,304,715
Total	\$ 9,649,715	\$ -	\$ 9,649,715

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SCHEDULE NO. 5

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EXHIBIT 225A

SECURITIES OF NATURAL GAS COMPANIES
SUMMARY ACCORDING TO CLASSES OF HOLDERS

<u>Company and Issues</u>	<u>Total Securities Outstanding</u>	<u>Held by</u>	
		<u>Public</u>	<u>Institutions Affiliates</u>
<u>Memphis Natural Gas Co.</u>			
Notes	\$ 1,610,000	-	\$ 1,610,000
Common Stock, 918,680 Shs. Par \$5	4,592,400	2,381,678	2,211,722
Total	\$ 6,202,400	\$ 2,381,678	\$ 1,610,000 \$ 2,211,722
<u>Mississippi River Fuel Corp.</u>			
Bonds and Notes:			
First Mtg. 4%, 1952	\$ 8,332,000	-	\$ 8,332,000
Notes, 6%, 1940	2,400,000	-	2,400,000
	\$10,732,000	-	\$ 8,332,000 \$ 2,400,000
Common Stock, 655,220 Shs. Par \$10	6,552,200	-	6,552,200
Total	\$17,284,200	-	\$ 8,332,000 \$ 8,952,200
<u>Michigan Gas Transmission Corp.</u>			
Notes	\$ 6,470,500	-	\$ 6,470,500
Common Stock, 44,800 Shs. Par \$50	2,240,000	-	2,240,000
Total	\$ 8,710,500	-	\$ 8,710,500
<u>Natural Gas Pipeline Co. of America</u>			
First Mtg. 6%, 1946	\$42,300,000	-	\$42,300,000
Common Stock, 1,500,000 Shs. No Par	3,000,000	-	2,000,000
Total	\$45,300,000	-	\$45,300,000
<u>New York State Natural Gas Corp.</u>			
Income Notes, 6%, 1942	\$ 4,500,000	-	\$ 4,500,000
Common Stock, 20,900 Shs. Par \$100	2,090,000	-	2,090,000
Total	\$ 6,590,000	-	\$ 6,590,000
<u>Northern Natural Gas Co.</u>			
Bonds and Notes:			
First Mtg. 3 1/2%, 1954	\$16,000,000	-	\$16,000,000
Notes, 2 1/8%, 1940-46	6,000,000	-	6,000,000
	\$22,000,000	-	\$22,000,000
Common Stock, 203,000 Shs. No Par	19,273,460	-	19,273,460
Total	\$41,273,460	-	\$22,000,000 \$19,273,460
<u>Panhandle Eastern Pipe Line Co.</u>			
First Mtg. 4%, A, 1952	\$23,000,000	\$ 4,918,000	\$18,082,000
Preferred Stock:			
Class A, \$6, Par \$100	\$10,000,000	-	\$10,000,000
Class B, \$6, Par \$100	1,000,000	-	1,000,000
	\$11,000,000	-	\$11,000,000
Common Stock, 807,367 Shs. No Par	\$20,184,175	\$ 1,594,550	\$18,589,625
Total	\$54,184,175	\$ 6,512,550	\$18,082,000 \$29,589,625

SECURITIES OF NATURAL GAS COMPANIES

EXHIBIT 225A

SUMMARY ACCORDING TO CLASSES OF HOLDERS

Company and Issues	Total Securities Outstanding	Held by		
		Public	Institutions	Affiliates
<u>Pittsburgh & West Virginia Gas Co.</u>				
Notes	\$13,090,446 \$	-	\$	\$13,090,446
Common Stock, 344,000 Shs. No Par	8,600,000	-	-	8,600,000
Total	\$21,690,446 \$	-	\$	\$21,690,446
<u>Southern Natural Gas Co.</u>				
Bonds and Notes:				
First Mtg. 4½%, 1951	\$12,408,000 \$	6,447,000 \$	5,961,000 \$	-
First Mtg. 4½%, 1952	572,000	-	572,000	-
Adj. Mtg., 1960	5,771,523	2,816,523	48,000	2,907,000
Notes, 4½%	800,000	-	800,000	-
	\$19,551,523 \$	9,263,523 \$	7,381,000 \$	2,907,000
Common Stock, 691,970 Shs. Par \$7.50	5,189,776	2,698,684	-	2,491,092
Total	\$24,741,299 \$	\$11,962,207 \$	7,381,000 \$	5,398,092
<u>Texoma Natural Gas Co.</u>				
Gas & Pipeline Mtg. 6%, 1946	\$18,750,000 \$	-	\$	\$18,750,000
Common Stock, 10,000 Shs. No Par	500,000	-	-	500,000
Total	\$19,250,000 \$	-	\$	\$19,250,000
<u>United Fuel Gas Co.</u>				
Notes:				
4½, 1940-46	\$ 4,500,000 \$	-	\$ 4,500,000 \$	-
Affiliates	14,535,000	-	-	14,535,000
	\$19,035,000 \$	-	\$ 4,500,000	\$14,535,000
Common Stock, 300,000 Shs. Par \$1	300,000	-	-	300,000
Total	\$19,335,000 \$	-	\$ 4,500,000	\$14,835,000
<u>United Gas Pipeline Co.</u>				
Bonds and Debentures:				
Northern Texas, 6%, 1940	\$ 790,000 \$	-	\$	\$ 790,000
Debentures, 6%, 1952	23,000,000	-	-	23,000,000
	\$23,790,000 \$	-	\$	\$23,790,000
Common Stock, 100,000 Shs. No Par	96,772,535	-	-	96,772,535
Total	\$120,562,535 \$	-	\$	\$120,562,535
<u>United Natural Gas Co.</u>				
Common Stock	\$15,125,000 \$	-	\$	\$15,125,000
<u>Warfield Natural Gas Co.</u>				
Notes	\$ 9,790,000 \$	-	\$	\$ 9,790,000
Common Stock 5,470 Shs. Par \$100	547,000	-	-	547,000
Total	\$10,337,000 \$	-	\$	\$10,337,000
Grand Total	\$657,399,135	\$31,297,741	\$126,628,000	\$499,473,394

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SCHEDULE NO. 5
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EXHIBIT 225A

SECURITIES OF NATURAL GAS COMPANIESSUMMARY ACCORDING TO CLASSES OF HOLDERS

<u>Company and Issues</u>	<u>Total Securities Outstanding</u>	<u>Public</u>	<u>Held by Institutions Affiliates</u>
<u>Grand Total by Types of Securities</u>			
Bonds, Debentures and Notes	\$328,447,620	\$19,411,523	\$126,628,000 \$182,408,097
Preferred Stock	25,131,000	1,491,800	- 23,639,200
Common Stock	303,820,515	10,394,418	- 293,426,097
<u>Grand Total</u>	<u>\$657,399,135</u>	<u>\$31,297,741</u>	<u>\$126,628,000 \$499,473,394</u>

The above information is as of December 31, 1939, with effect given to any information regarding changes since December 31, 1939.

BONDS, CERTIFICATES AND NOTES OF NATURAL GAS COMPANIES

HOLDINGS BY INSTITUTIONS

<u>Company and Issue</u>	<u>Total Outstanding</u>	<u>Holding Institution</u>	<u>Amount</u>	<u>\$ of Total Outstanding</u>
<u>Arkansas-Louisiana Gas Co.</u>				
<u>First Mtg. 2 3/4% A, 1940-44</u>	\$ 3,300,000	(a) Guaranty Trust Co. of New York (Central Hanover Bank & Trust Co.)	\$2,800,000 500,000 <u>\$3,300,000</u>	<u>100.0</u>
<u>First Mtg. 3 1/2% B, 1940-44</u>	9,700,000	(a) Equitable Life Assurance Society of U.S. (Metropolitan Life Insurance Co.) (Massachusetts Mutual Life Ins. Co.) (Sun Life Assurance Co. of Canada) (Teachers Ins. & Annuity Assoc. of America) (Provident Mutual Ins. Co. of Philadelphia)	\$4,850,000 3,750,000 400,000 350,000 300,000 250,000 <u>\$9,700,000</u>	<u>100.0</u>
<u>Cities Service Gas Co.</u>				
<u>First Mtg. 3 3/4% 1947-54</u>	20,000,000	(b) Equitable Life Assurance Society of U.S. (Metropolitan Life Insurance Co.)	\$10,000,000 10,000,000 <u>\$20,000,000</u>	<u>100.0</u>
<u>Notes Payable (Secured by \$15,000,000 First Mtg. 3 1/2% 1940-46)</u>	15,000,000	(c) Bank Loan	<u>\$15,000,000</u>	<u>100.0</u>
<u>Colorado Interstate Gas Co.</u>				
<u>First & Coll. Trust 3 1/2%, 1948</u>	8,865,000	(b) Mutual Life Ins. Co. of N. Y. (e) Guaranty Trust Co. of N. Y.	\$ 4,865,000 4,000,000 <u>\$ 8,865,000</u>	<u>100.0</u>

See Schedule No. 5-B, Page 5 for Notes.

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SCHEDULE NO. 5-B
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EXHIBIT 225A

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SCHEDULE NO. 5-B
PAGE 2

EXHIBIT 225A

ASSETS, LIABILITIES, AND RATES OF NATURAL GAS COMPANIES
HOLDINGS BY INSTITUTIONS

Company and Issue	Total Outstanding	Holding Institution	Amount	% of Total Outstanding
<u>El Paso Natural Gas Co.</u>				
First Mtg. 3 1/2%, 1953	\$5,000,000	(b) (Equitable Life Assurance Society of U. S. (Harvard College (Massachusetts Mutual Life Insurance Co. (Metropolitan Life Insurance Co. (Mutual Life Insurance Co. of N. Y. (Sun Life Assurance Co. of Canada	\$2,250,000 100,000 275,000 2,000,000 475,000 500,000 \$5,000,000	100.0
First Mtg. 3 1/2%, 1953	3,000,000	(a) (Equitable Life Assurance Society of U. S. (Metropolitan Life Insurance Co. (Sun Life Assurance Co. of Canada (Mutual Life Insurance Co. of N. Y. (Massachusetts Mutual Life Insurance Co.	3,000,000 3,000,000 3,000,000 3,000,000 3,000,000	100.0
<u>Edwards Gulf Gas Co.</u>				
First & Collateral A. 5%, 1943	4,236,000	(b) (Princeton University (10 Other Institutions	\$200,000 \$400,000 \$400,000	20.2
Debentures, 6%, 1943	1,850,000	(c) (Massachusetts Mutual Life Insurance Co. (6 Other Institutions	\$105,000 \$215,000 \$530,000	28.5
<u>Empire Natural Gas Co.</u>				
Notes	1,610,000	(-) Various Banks	\$1,610,000	100.0
<u>Mississippi River Fuel Co.</u>				
First Mtg. 4 1/2%, 1942	6,342,000	(b) (Equitable Life Assurance Society of U. S. (Metropolitan Life Insurance Co. (Mutual Life Insurance Co. of N. Y. (Prudential Insurance Co. of America	\$5,342,000 \$1,000,000 \$1,000,000 \$1,000,000	100.0

See Schedule No. 5-B, Page 3 for Notes.

BONDS, SECURITIES AND NOTES OF NATURAL GAS COMPANIES

HOLDINGS BY INSTITUTIONS

<u>Company and Issue</u>	<u>Total Outstanding</u>	<u>Holding Institution</u>	<u>Amount</u>	<u>\$ of Total Outstanding</u>
<u>Northern Natural Gas Co.</u>				
First Mtg. 3 1/4%, 1954	\$16,000,000	(b) Equitable Life Assurance Society of U. S. (Metropolitan Life Insurance Co.) (Prudential Insurance Co. of America) (Sun Life Assurance Co. of Canada) (Travelers Insurance Co.)	\$ 3,600,000 5,400,000 3,600,000 1,000,000 2,400,000 <u>\$16,000,000</u>	<u>100.0</u>
Notes, 2 1/8%, 1940-46	6,000,000	(c) Chase National Bank	\$ 6,000,000	<u>100.0</u>
<u>Panhandle Eastern Pipe Line Co.</u>				
First Mtg. 4 1/4%, 1952	23,000,000	(b) Equitable Life Assurance Society of U. S. (Harvard College) (Massachusetts Mutual Life Ins. Co.) (Metropolitan Life Insurance Co.) (Mutual Life Insurance Co. of N. Y.) (Princeton University) (Prudential Mutual Life Ins. Co. of Phila.) (Prudential Insurance Co. of America) (Sun Life Assurance Co. of Canada) (Travelers Insurance Co.) (25 Other Institutions)	\$ 4,891,000 194,000 860,000 4,323,000 1,500,000 200,000 284,000 980,000 3,000,000 730,000 1,141,000 <u>\$15,062,000</u>	<u>78.6</u>

See Schedule No. 5-B, Page 5 for Notes.

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SCHEDULE NO. 5-B
PAGE 3

EXHIBIT 225A

STOCKS, DEBITURES AND NOTES OF NATURAL GAS COMPANIES

HEADINGS BY INSTITUTIONS

% of Total
Outstanding

Company and Issue	Total Outstanding	Holding Institution	Amount
<u>Southern Natural Gas Co.</u>			
First Mfg. & 1/25, 1951	\$12,408,000	(b) Harvard College (Insurance Co. of North America Massachusetts Mutual Life Insurance Co. Metropolitan Life Insurance Co. Modern Woodmen of America Princeton University Provident Mutual Life Insurance Co. Sun Life Assurance Co. of Canada Travelers Insurance Co. Washington Savings Fund Society (25) Other Institutions	\$ 100,000 218,000 421,000 2,901,000 231,000 130,900 289,000 185,000 275,700 198,000 270,000 5,964,000
First Mfg. & 1/25, 1952	572,000	(b) Metropolitan Life Insurance Co.	\$ 572,000
Adjustment Mfg. 1950	5,771,523	(b) Central Life Ins. Co. of Illinois (Order of Scottish Clans)	\$ 21,000 25,000 48,000
Notes, & 1/25	800,000	(c) First National Bank, Birmingham, Ala.	\$ 800,000
<u>United Fuel Gas Co.</u>			
Notes, 55, 1940-46	4,500,000	(b) Metropolitan Life Insurance Co. (Mutual Life Insurance Co. of N. Y.)	\$ 3,750,000 475,000 7,500,000 415,000,000
GRAND TOTAL			100.0

See Schedule No. 5-B, Page 5 for Notes.

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SCHEDULE NO. 5-B
PAGE 5

EXHIBIT 205A

BONDS, DEBENTURES AND NOTES OF NATURAL GAS COMPANIES

HOLDINGS BY INSTITUTIONS

Source of Data:

- (a) S. E. C. Holding Company Release No. 1731, dated September 26, 1939.
- (b) Poor's Institutional Holdings of Securities, 1940.
- (c) Moody's Public Utilities, 1940.
- (d) Moody's Public Utilities Supplements, September 11, 1940.
- (e) Working papers of F.P.C. Accountants, Docket Nos. G-118, G-121, and G-124.

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Page 1

EXHIBIT 225A

LIST OF SUBSIDIARIES AND NOTES OF NATURAL GAS COMPANIES

EXHIBITS BY AFFILIATES

Company and Issue	Total Outstanding	Holding Affiliate	Amount	% of Total Outstanding
<u>Arkansas Natural Gas Co.</u>				
Debentures, 1945, 1955	\$ 6,500,000	(a) Arkansas Natural Gas Corp.	\$ 6,500,000	100.0
<u>Canadian River Gas Co.</u>				
First Mtg. 64	5,057,000	(a) Colorado Interstate Gas Co.	\$ 5,057,000	100.0
Notes, 1940-46	1,546,654	(d) Colorado Interstate Gas Co.	\$ 1,546,654	100.0
<u>Chicago Natural Pipeline Co.</u>				
Notes	4,867,977	(a) Natural Gas Investment Co.	\$ 4,867,977	100.0
<u>Cities Service Gas Co.</u>				
Debentures, 1945, 1955	8,000,000	(a) Cities Service Co. and subsidiaries	\$ 8,000,000	100.0
<u>Houston Gulf Gas Co.</u>				
Notes, 1945	1,560,000	(a) United Gas Pipe Line Co.	\$ 1,560,000	100.0
<u>Lone Star Gas Co.</u>				
Notes	16,600,000	(c) Lone Star Gas Corp.	\$ 16,600,000	100.0
<u>Michigan Gas Transmission Corp.</u>				
Notes	6,470,500	(c) Columbia Gas & Electric Corp.	\$ 6,470,500	100.0
<u>Mississippi River Fuel Corp.</u>				
Notes, 64, 1940	2,400,000	(b) United Carbon Co. (United Gas Corp. Standard Oil Co. of N. J. Columbia Carbon Co.)	\$ 2,400,000	100.0

EXHIBIT 225A

Company and Issue	Total Outstanding	Holding Affiliates	Amount	% of Total Outstanding
<u>Natural Gas Pipeline Co. of America</u> First Mtg. 6%, 1942	\$4,300,000	(a) Cities Service Co. (Natural Gas Investment Co.) (Standard Oil Co. of N.J.) (Southwestern Development Co.) (Tenn. Co.) (Columbian Carbon Co.)	\$12,500,000	100.0
<u>New York State Natural Gas Corp.</u> Income Notes, 6%, 1942	4,500,000	(a) Lyscoming United Gas Corp.	4,500,000	100.0
<u>Pittsburgh West Virginia Gas Co.</u> Notes	15,000,000	(a) Affiliated Companies	\$15,000,000	100.0
<u>Southern Natural Gas Co.</u> Adjustment Mtg. 6%, 1940	5,771,543	(a) Federal Water Service Corp.	5,771,543	100.0
<u>Texas Natural Gas Co.</u> as a Division Mtg. 6%, 1940	18,750,000	(a) Natural Gas Pipeline Co. of America	\$18,750,000	100.0
<u>United Fuel Gas Co.</u> Notes	18,550,000	(c) Columbia Gas & Electric Corp.	\$18,550,000	100.0
<u>United Gas Pipe Line Co.</u> Northern Series, 6%, 1941 Mortgage, 6%, 1941	750,000 23,000,000	(a) Electric Bond & Share Co. (a) United Gas Corp.	750,000 \$23,000,000	100.0 100.0
<u>Wartfield Natural Gas Co.</u> Notes	9,750,000	(a) Columbia Gas & Electric Corp.	\$9,750,000	100.0
<u>Grand Total</u>			<u>\$125,422,097</u>	

Source of Data: (a) Utility's Public Utilities, 1940
(b) Public Utilities Manual, 1940
(c) 1941 Annual Report to Federal Power Commission (Form 145)

REPORTED STOCKS OF NATURAL GAS COMPANIES

HELD BY PUBLIC

Company	Issue	Total Outstanding	Held by Public (a)	Poor's Rating	1937		1938		1939		1940 Current Market Field %	Call Price
					High	Low	High	Low	High	Low		
El Paso Natural Gas Co.	7 1/2 Cum. Pfd. - Per \$100	\$1,479,700	\$1,479,700	See	107 (b)	94 (b)	109 (b)	102 (b)	111 (b)	108 (b)	110 1/2	110
Houston Gulf Gas Co.	7 1/2 Cum. Series A - Per \$100	806,300 (c)	11,100	C	-	-	-	-	-	-	-	107
" " "	7 1/2 Cum. Series B - Per \$100	1,570,300 (c)	1,000	C	-	-	-	-	-	-	-	107
		\$3,786,300	\$1,491,800		-	-	-	-	-	-	-	

Notes: (a) The difference between Total Outstanding and Held by Public is Held by Affiliates

(b) End of month bid quotations

(c) Dividends in arrears from September 1, 1931 to December 31, 1939 aggregate \$59,55-1/8 per share

PREPARED STOCKS OF NATURAL GAS COMPANIES

HOLDINGS BY AFFILIATES

<u>Company and Issue</u>	<u>Total Outstanding</u>	<u>Holding Affiliate</u>	<u>Amount</u>	<u>\$ of Total Outstanding</u>
<u>Colorado Interstate Gas Co.</u>				
Preferred Stock 64, Par \$100	\$ 2,000,000	(a) Standard Oil Co. of N. J. (Consolidated Oil Corp.)	\$ 1,000,000 1,000,000 <u>\$ 2,000,000</u>	50.0 50.0 <u>100.0</u>
<u>Houston Oil & Gas Co.</u>				
7 1/2 Cum. Preferred, A, Par \$100	806,300	(a) United Gas Pipeline Co.	\$ 795,300	98.6
7 1/2 Cum. Preferred, B, Par \$100	1,500,000	(a) United Gas Pipeline Co.	\$ 1,499,000	99.9
<u>Kentucky-West Virginia Gas Co.</u>				
5 1/2 Cum. First Preferred, Par \$100	2,937,500	(a) Louisville Gas & Electric Co. (Ky)	\$ 2,937,500	100.0
7 1/2 Cum. Second Preferred, Par \$100	5,407,500	(a) Philadelphia Co. and subsidiaries	\$ 5,407,500	100.0
<u>Panhandle Eastern Pipe Line Co.</u>				
Class A, \$5, Par \$100	10,000,000	(a) Columbia Oil & Gasoline Corp.	\$10,000,000	100.0
Class B, \$5, Par \$100	1,000,000	(a) Columbia Oil & Gasoline Corp.	\$ 1,000,000	100.0
GRAND TOTAL			<u>\$21,639,300</u>	

Source of Data: (a) Moody's Public Utilities, 1940

EXHIBIT 225A

2057
SCHEDULE NO. 5-1

STICK IN PRODUCTION

EXHIBIT 225A

Line number and page number

2101

Schedule K
Page 1

EXHIBIT 225A

NEW STONE & LUTAL GAS COMPANIES
BUSINESS BY AFFILIATES

Company and Issue	Total Outstanding	Holding Affiliate	Amount	% of Total Outstanding
<u>Arcansas-Louisiana Gas Co.</u> Common, 250,000 shs. - No Par	\$11,400,000	(a) Arcansas Natural Gas Co.	\$11,400,000	100.0
<u>Canadian River Gas Co.</u> Common	1	(a) Southeastern Development Co.	1	100.0
<u>Chicago District Pipeline Co.</u> Common, 1,500 shs. - No Par	654,300	(a) Natural Gas Investment Co.	654,300	100.0
<u>Cities Service Gas Co.</u> Common, 450,000 shs. - No Par	50,000,000	(a) Empire Gas & Fuel Co. (Ind.)	50,000,000	100.0
<u>Colorado Interstate Gas Co.</u> Common, 1,250,000 shs. - No Par	6,150,000	(a) (Southwestern Development Co. (Ind.)) (Standard Oil Co. of Ind. (Ind.)) (Public Service Co. of Colorado (Ind.))	6,150,000	100.0
<u>Deep Natural Gas Co.</u> Common, 212,000 shs. - No Par	27,400,000	(b) Standard Oil Co. (Ind.)	27,400,000	100.0
<u>Gougeon Gulf Gas Co.</u> Common, 217,000 shs. - No Par	5,170,000	(a) Gougeon Gas Pipeline Co.	5,170,000	100.0
<u>Interstate Natural Gas Co.</u> Common, 250,000 shs. - No Par	6,600,000	(b) (Standard Oil Co. of Ind. (Ind.)) (Columbian Carbon Co. (Ind.))	6,600,000	100.0

EXHIBIT 225A

COMMON STOCKS OF NATURAL GAS COMPANIES
HELD BY AFFILIATES

Company and Issue	Total Outstanding	Holding Affiliates	Amount	% of Total Outstanding
<u>Lone Star Gas Co.</u>				
Common, 540,000 shs. - No Par	\$28,113,280	(e) Lone Star Gas Corp.	\$28,113,280	100.0
<u>Kentucky West Virginia Gas Co.</u>				
Common, 100,000 shs. - No Par	1,304,715	(e) Louisville Gas & Electric Co. (Ky.) (40%) Philadelphia Co.	\$1,324,715	100.0
<u>Memphis Natural Gas Co.</u>				
Common, 218,660 shs. - Par \$5	4,593,600	(e) Commonwealth Gas Corp.	\$2,811,782	100.0
<u>Midwest Gas Transmission Corp.</u>				
Common, 44,800 shs. - Par \$20	2,240,000	(e) Columbia Gas & Electric Corp.	\$2,240,000	100.0
<u>Mississippi River Fuel Corp.</u>				
Common, 655,280 shs. - Par \$10	6,552,800	(d) { United Carbon Co. (13.45%) { United Gas Corp. (46.05%) { Standard Oil Co. of N. J. (22.39%) { Columbia Carbon Co. (17.08%)	\$6,552,800	100.0
<u>Natural Gas Pipeline Co. of America</u>				
Common, 1,500,000 shs. - No Par	3,000,000	(e) { Cities Service Co. (26.699%) { Natural Gas Investment Co. (26.699%) { Texas Corp. (17.393%) { Standard Oil Co. of New Jersey (13.314%) { Southwestern Development Co. (13.314%) { Columbia Carbon Co. (2.598%)	\$3,000,000	100.0

COMMON STOCKS OF NATURAL GAS COMPANIES
HOLDINGS BY AFFILIATES

Company and Issue	Total Outstanding	Holding Affiliate	Amount	% of Total Outstanding
New York State Natural Gas Corp. Common, 20,000 shs. - Par \$100	\$ 2,000,000	(f) Lysenring United Gas Corp.	\$ 2,000,000	100.0
Northern Natural Gas Co. Common, 205,000 shs. - No Par	19,273,660	(a) (Lene Star Gas Corp. (50.0%) (North American Light & Power Co. (55.0%) (United Light & Railways Co. (55.0%))	\$19,273,660 <u>\$19,273,660</u>	100.0
Pennsylvanian Eastern Pipe Line Co. Common, 607,367 shs. - No Par	20,134,175	(a) (Columbia Oil & Gasline Corp. (50.00%) (Missouri-Kansas Pipe Line Co. (46.00%))	\$20,134,175 <u>\$20,134,175</u>	92.10
Pittsburgh & West Virginia Gas Co. Common, 344,000 shs. - No Par	9,600,000	(a) Philadelphia Co.	\$ 9,600,000	100.0
Rochester Natural Gas Co. Common, 691,970 shs. - Par \$1.50	5,184,776	(a) Federal Water Service Corp.	\$ 2,431,092	46.0
Texas Natural Gas Co. Common, 10,000 shs. - No Par	500,000	(a) (Cities Service Co. (25.00%) (Natural Gas Investment Co. (25.00%) (Southwestern Development Co. (25.00%) (Texas Corp. (17.99%) (Columbia Carbon Co. (2.55%))	\$ 500,000 <u>\$ 500,000</u>	100.0
United Fuel Gas Co. Common, 100,000 shs. - Par \$1	500,000	(a) Columbia Gas & Electric Corp.	\$ 500,000	100.0
United Gas Pipe Line Co. Common, 100,000 shs. - No Par	\$ 172,535	(a) United Gas Corp.	\$25,776,535	100.0

EXHIBIT 225A

COMMON STOCKS OF NATURAL GAS COMPANIES

MAINTAINING AFFILIATES

Company and Issue	Total Outstanding	Holding Affiliates	Amount	% of Total Outstanding
<u>United Natural Gas Co.</u>				
Common	\$15,125,000	(a) National Fuel Gas Co.	\$15,125,000	100.0
<u>Warfield Natural Gas Co.</u>				
Common, 54,700 shs. - Par \$100	547,000	(c) Columbia Gas & Electric Corp.	547,000	100.0
Grand Total			<u>\$20,650,000</u>	

Source of Data: (a) Moody's Public Utilities, 1940
 (b) Standard Corporation Records
 (c) 1939 Annual Report to Federal Power Commission (Form 135)
 (d) Response to FPC Order No. 51
 (e) Working papers of FPC Accountants, Docket Nos. G-114 and G-125

EXHIBIT 225A

SEEDS OF SATURNAL WAS COMPANIES SOLD IN PERIOD FROM JANUARY 1, 1945 TO OCTOBER 15, 1949

COST OF SEEDS TO LASTING CO-OPERS AND YIELD TO PUBLIC

effect of wheat to harvesting conditions and yield to public

Company	Approximate Offering Date	Issue	Principal Amount	Net Cost to Company	Price to Public	Yield %	Par Value	Sold By
Armadillo Petroleum Co. (a)	July 1936	Armadillo A Notes	\$10,000,000	\$4.00	\$4.15	4.15	10,000,000	
Armadillo Petroleum Co. (b)	Mar. 1937	Armadillo B Notes	\$10,000,000	\$4.00	\$4.15	4.15	10,000,000	
Armadillo Petroleum Co. (c)	Mar. 1937	Armadillo C Notes	\$10,000,000	\$4.00	\$4.15	4.15	10,000,000	
Armadillo Petroleum Co. (d)	Mar. 1937	Armadillo D Notes	\$10,000,000	\$4.00	\$4.15	4.15	10,000,000	
Armadillo Petroleum Co. (e)	Mar. 1937	Armadillo E Notes	\$10,000,000	\$4.00	\$4.15	4.15	10,000,000	
Armadillo Petroleum Co. (f)	Mar. 1937	Armadillo F Notes	\$10,000,000	\$4.00	\$4.15	4.15	10,000,000	
Armadillo Petroleum Co. (g)	Mar. 1937	Armadillo G Notes	\$10,000,000	\$4.00	\$4.15	4.15	10,000,000	
Armadillo Petroleum Co. (h)	Mar. 1937	Armadillo H Notes	\$10,000,000	\$4.00	\$4.15	4.15	10,000,000	
Armadillo Petroleum Co. (i)	Mar. 1937	Armadillo I Notes	\$10,000,000	\$4.00	\$4.15	4.15	10,000,000	
Armadillo Petroleum Co. (j)	Mar. 1937	Armadillo J Notes	\$10,000,000	\$4.00	\$4.15	4.15	10,000,000	
Armadillo Petroleum Co. (k)	Mar. 1937	Armadillo K Notes	\$10,000,000	\$4.00	\$4.15	4.15	10,000,000	
Armadillo Petroleum Co. (l)	Mar. 1937	Armadillo L Notes	\$10,000,000	\$4.00	\$4.15	4.15	10,000,000	
Armadillo Petroleum Co. (m)	Mar. 1937	Armadillo M Notes	\$10,000,000	\$4.00	\$4.15	4.15	10,000,000	
Armadillo Petroleum Co. (n)	Mar. 1937	Armadillo N Notes	\$10,000,000	\$4.00	\$4.15	4.15	10,000,000	
Armadillo Petroleum Co. (o)	Mar. 1937	Armadillo O Notes	\$10,000,000	\$4.00	\$4.15	4.15	10,000,000	
Armadillo Petroleum Co. (p)	Mar. 1937	Armadillo P Notes	\$10,000,000	\$4.00	\$4.15	4.15	10,000,000	
Armadillo Petroleum Co. (q)	Mar. 1937	Armadillo Q Notes	\$10,000,000	\$4.00	\$4.15	4.15	10,000,000	
Armadillo Petroleum Co. (r)	Mar. 1937	Armadillo R Notes	\$10,000,000	\$4.00	\$4.15	4.15	10,000,000	
Armadillo Petroleum Co. (s)	Mar. 1937	Armadillo S Notes	\$10,000,000	\$4.00	\$4.15	4.15	10,000,000	
Armadillo Petroleum Co. (t)	Mar. 1937	Armadillo T Notes	\$10,000,000	\$4.00	\$4.15	4.15	10,000,000	
Armadillo Petroleum Co. (u)	Mar. 1937	Armadillo U Notes	\$10,000,000	\$4.00	\$4.15	4.15	10,000,000	
Armadillo Petroleum Co. (v)	Mar. 1937	Armadillo V Notes	\$10,000,000	\$4.00	\$4.15	4.15	10,000,000	
Armadillo Petroleum Co. (w)	Mar. 1937	Armadillo W Notes	\$10,000,000	\$4.00	\$4.15	4.15	10,000,000	
Armadillo Petroleum Co. (x)	Mar. 1937	Armadillo X Notes	\$10,000,000	\$4.00	\$4.15	4.15	10,000,000	
Armadillo Petroleum Co. (y)	Mar. 1937	Armadillo Y Notes	\$10,000,000	\$4.00	\$4.15	4.15	10,000,000	
Armadillo Petroleum Co. (z)	Mar. 1937	Armadillo Z Notes	\$10,000,000	\$4.00	\$4.15	4.15	10,000,000	

(a) Arkansas Gas and the company, \$100,000 outstanding first.
 (b) \$100,000 first mortgage, \$100,000 outstanding first.
 (c) \$100,000 first mortgage, \$100,000 outstanding first.
 (d) \$100,000 first mortgage, \$100,000 outstanding first.
 (e) \$100,000 first mortgage, \$100,000 outstanding first.
 (f) \$100,000 first mortgage, \$100,000 outstanding first.
 (g) \$100,000 first mortgage, \$100,000 outstanding first.
 (h) \$100,000 first mortgage, \$100,000 outstanding first.
 (i) \$100,000 first mortgage, \$100,000 outstanding first.
 (j) \$100,000 first mortgage, \$100,000 outstanding first.
 (k) \$100,000 first mortgage, \$100,000 outstanding first.
 (l) \$100,000 first mortgage, \$100,000 outstanding first.
 (m) \$100,000 first mortgage, \$100,000 outstanding first.
 (n) \$100,000 first mortgage, \$100,000 outstanding first.
 (o) \$100,000 first mortgage, \$100,000 outstanding first.
 (p) \$100,000 first mortgage, \$100,000 outstanding first.
 (q) \$100,000 first mortgage, \$100,000 outstanding first.
 (r) \$100,000 first mortgage, \$100,000 outstanding first.
 (s) \$100,000 first mortgage, \$100,000 outstanding first.
 (t) \$100,000 first mortgage, \$100,000 outstanding first.
 (u) \$100,000 first mortgage, \$100,000 outstanding first.
 (v) \$100,000 first mortgage, \$100,000 outstanding first.
 (w) \$100,000 first mortgage, \$100,000 outstanding first.
 (x) \$100,000 first mortgage, \$100,000 outstanding first.
 (y) \$100,000 first mortgage, \$100,000 outstanding first.
 (z) \$100,000 first mortgage, \$100,000 outstanding first.

Recent Financing by Companies Affiliated (Directly and Indirectly)
with Canadian River Gas Company, Colorado Interstate Gas Company
and Colorado-Wyoming Gas Company

EXHIBIT 225A

Company	Date of Issue	Issue	Price to Purchasers	Yield to Purchasers %
Consolidated Oil Corporation	June 1936	\$50,000,000 Debenture, 3½%, 1951	98	3.67 (1)
" " " "	August 1938	\$25,000,000 Debenture, 3 3/8%, 1950 (Entire issue sold to Equitable Life Assurance Society of the United States)	100	3.38 (14)
Public Service Company of Colorado	November 1939	\$40,000,000 First Mtg. 3½%, 1964	102	3.38 (2)
" " " "	November 1939	\$12,500,000 Debenture, 4½%, 1949	102	3.76 (2)
Standard Oil Company (N.J.)	May 1936	\$30,000,000 Debenture, 3½%, 1961	98	3.12 (1)
" " " "	May 1936	\$55,000,000 Debenture, 3½%, 1961 (Sold to Rockefeller Foundations)	98	3.12 (1)
" " " "	July 1938	\$50,000,000 Debenture, 2 3/4%, 1953	99	2.83 (1)
" " " "	July 1938	\$35,000,000 Serial Notes, 1 3/4-2½%, 1943-47. (\$35,000,000 sold to public, and \$1,000,000 sold to Rockefeller Institute for Medical Research) (Redeemed on July 2, 1940; funds for purpose were obtained from sale in July 1940 of \$35,000,000 Promissory Notes, 1½-1½%, 1943-47)	100	1.75-2.50 (1)
" " " "	July 1940	\$35,000,000 Promissory Notes, 1½-1½%, 1943-47 (The new notes consist of two 1½% notes of \$7,000,000 each due on July 1, 1943 and 1947, and three 1½% promissory notes due \$7,000,000 on July 1, 1945, \$7,000,000 on July 1, 1946, and \$6,999,999 on July 1, 1947, evidencing borrowing from two banks)	100	1.25-2.50 (3)
Southwestern Development Company	July 1, 1936	\$6,360,348.36 Collateral Loan, 2-1½%, 1937-41, payable to Guaranty Trust Company, New York. (Reduction in interest rate from 4% to 3½%, and extension of maturity of balance of \$4,500,000 beyond July 1, 1941, approved by SEC on May 10, 1939; New 3½% collateral note issued as of August 1, 1939, in exchange for outstanding 3½% collateral note. (The 3½% note was redeemed on January 2, 1940).	100	2.00-4.00 (4)
" " " "	December 19, 1936	\$1,762,003.08 Unsecured Notes, 4½%, due July 1, 1942 (Issued to holders of company's common stock as a dividend at rate of \$4.18 in notes for each share held). (Redeemed on January 3, 1938).	100	30.00 (5)
" " " "	November 1, 1937	\$3,892,000 Collateral Loan, 4½%, 1939-43 payable to Guaranty Trust Company New York	100	4.00 (6)

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Schedule No. 7
Sheet 2

EXHIBIT 225A

Recent Financing by Companies Affiliated (Directly and Indirectly)
with Southern Bell Company, Colorado Interstate Gas Company
and Colorado-Swining Gas Company

<u>Company</u>	<u>Date of Issue</u>	<u>Issue</u>	<u>Price to</u> <u>Purchasers</u>	<u>Yield to</u> <u>Purchasers %</u>
Southwestern Development Company	December 1937	\$2,040,300 Unsecured Notes 4% due July 1, 1943 (Issued to holders of company's common stock as a dividend at rate of \$30.00 in notes for each share held). (Redeemed on January 2, 1940).	100	4.00 (7)
	January 2, 1940	\$1,425,750 Collateral Loan, 3%, 1940-45, payable to Guaranty Trust Company, New York. (Issued to redeem \$2,040,300 Unsecured Notes, 4% due July 1, 1943; and balance of \$2,385,634 Collateral Loan, 3% due July 1, 1944.)	100	3.00 (2)

Source of Data: (1) Moody's Industrials, 1940
 (2) Moody's Public Utilities, 1940
 (3) Moody's Industrials, Supplements, August 21, 1940
 (4) SEC Decisions, Volume 1.
 (5) Moody's Public Utilities, 1937
 (6) SEC Holding Company, Release No. 881, dated November 15, 1937
 (7) Moody's Public Utilities, 1938

29. Net Operating Earnings, After Income and Capital Stock Taxes, of Colorado Interstate Under Its Contracts from the Denver Line, 1928 to 1939, Inclusive, and as Estimated, 1940 to 1947, Inclusive, Applicable to Depreciation, Amortization and a Return on the Original Cost of Its Property, Plus Working Capital.

The company's Exhibit 170 (Vol. XLVIII, p. 6598), as amended by Exhibit 170-B (Vol. C, p. 15460), both presented by witness Lusk, bring together the following data for the purpose of presenting the facts set forth in the caption.

The original cost of the company's portion of the Denver Line as shown in Exhibits 67 and 133. These exhibits, as well as exhibits 65, 75, 139, 195, and 196, are all abstracted under Title 18 supra.

The cost of contracts as shown by Exhibit 77. This exhibit and Exhibits 16, 7-E, 7-H, and 7-I are all abstracted under Title 19 supra.

Necessary working capital as shown by Exhibit 70. This exhibit and Exhibit 145 are abstracted supra under Title 22.

Revenues from the sale of gas from the Denver Line as shown by Exhibits 56, 43 and 59. These exhibits, as well as Exhibits 60, 63, 72 and 293, are abstracted under Title 15 supra.

Operating expenses and operating taxes as shown by Exhibits 76, 135 and 135-A. These exhibits and Exhibits 140, 173, 196 and 293 are abstracted under Title 23 supra.

Cost at contract price for gas delivered to Colorado Interstate at Clayton Junction for the Denver Line as shown by Exhibit 164 abstracted under Title 25 supra.

In this Exhibit 170, as amended by Exhibit 170-B, Lusk records for the past and computes for the future all state and Federal income capital stock and like taxes hereinafter abstracted.

After giving effect to all the foregoing data and factors, Exhibits 170 and 170-B show net operating earnings remain-

ing for depreciation and amortization after first deducting amounts necessary for return. These results are set forth in Statement 1 of Exhibit 170, as amended by Exhibit 170-B, as follows:

Colorado Interstate Gas Company

The Denver Line for All Gas Sold

Past and Future Net Operating Earnings Applicable to Depreciation Amortization and Return 1928 to 1947 Inclusive

Calendar Year	Original Cost Rate Base at Jan. 1st	Revenues All Gas Sales and Rentals	Operating Costs and All Taxes	Net Operating Earnings for Return, Depreciation and Amortization		
				Total Net Earnings	Amount required for 8% Return	Available for Depreciation and Amortization
	(1)	(2)	(3)	(4)	(5)	(6)
Actual						
1928 (A)	\$10,950,045	\$ 830,014	\$ 365,891	\$ 464,123	\$ 510,999	\$ —46,876
1929	11,214,748	2,639,334	1,172,833	1,466,501	897,180	569,321
1930	11,821,379	3,278,930	2,025,181	1,253,749	945,710	308,039
1931	12,559,727	3,405,381	2,161,805	1,243,576	1,004,778	238,798
1932	14,012,937	3,411,740	2,092,068	1,319,672	1,121,035	198,637
1933	14,147,763	3,055,504	1,934,673	1,120,831	1,131,821	—10,990
1934	14,130,545	3,029,973	1,759,281	1,270,692	1,130,444	140,248
1935	14,218,164	3,298,164	1,699,768	1,598,396	1,137,453	460,943
1936	14,386,405	3,951,394	1,876,535	2,074,859	1,150,912	923,947
1937	14,440,854	4,221,165	1,978,039	2,243,126	1,155,268	1,087,858
1938	14,613,319	3,923,225	1,997,096	1,926,129	1,169,066	757,063
1939	14,762,254	4,318,019	2,169,096	2,148,923	1,180,980	967,943
Estimated						
1940	14,797,750	4,487,968	2,466,469	2,021,499	1,183,820	837,679
1941	14,916,486	4,822,323	2,648,510	2,173,813	1,193,319	980,494
1942	14,924,486	4,966,868	2,719,110	2,247,758	1,193,959	1,053,799
1943	15,146,812	5,042,633	2,779,660	2,262,973	1,211,745	1,051,228
1944	15,147,812	5,179,859	2,845,457	2,334,402	1,211,825	1,122,577
1945	15,149,812	5,337,040	2,941,648	2,395,392	1,211,985	1,183,407
1946	15,150,812	5,337,040	3,014,910	2,322,130	1,212,065	1,110,065
1947	15,151,812	5,337,040	3,209,429	2,127,611	1,212,145	915,466
Total for Period		\$79,873,614	\$43,857,459	\$36,016,155	\$22,166,509	\$13,849,646

Note: (A) 7 Months.

The "original cost rate base" at January 1 for each of the years shown in Column 1 is comprised of the original cost of the physical properties, plus the original cost of the contracts, plus necessary working capital. The "operating costs and all taxes" include the cost of gas abstracted under Title 25, the operating expenses and operating taxes, abstracted under Title 23 supra, plus state and Federal income and capital stock and like taxes next mentioned.

As already stated, Exhibit 170 was corrected by Exhibit 170-B to cure an error in computation of excess profits taxes as estimated for the years 1940 to 1947 inclusive. Statement 1 set forth above shows the corrected figures for those years. The tax computations were originally made before copy of the 1940 Revenue Act and Regulations thereunder had been received. When Lusk received them, he found that they permitted a deduction of normal tax accrued for any one year before computation of the excess profits tax. Thereupon he recalculated the excess profits taxes for the years 1940 to 1947 inclusive, and they are shown in the statement set forth above (Vol. C, p. 15460, et seq.)

The capital stock and state and Federal income and related taxes (which, together with the cost of gas, and operating costs and operating taxes are totaled in Column 3) are set forth in Statement 5 of Exhibit 170, as amended by Statement 5 of Exhibit 170-B, as follows:

7

Colorado Interstate Gas Company

Capital Stock Tax and Income Taxes on Earnings from Denver Line Sales of All Gas
1928 to 1947, Inclusive

Year	Capital Stock Tax	Federal Income Taxes				Colorado State Income Tax	Total Capital Stock and Income Taxes
		Normal	Declared Value Excess Profits	Undis- tributed Profits	Excess Profits Tax	Total Federal Taxes	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Actual:							(8)
1928 (A)		\$ 17,030				\$ 17,030	\$ 17,030
1929		69,802				69,802	69,802
1930		51,282				51,282	51,282
1931		44,068				44,068	44,068
1932		60,339				60,339	60,339
1933	\$ 4,300	47,122				51,422	51,422
1934	4,300	72,263				76,563	76,563
1935	4,829	143,876	\$17,964			166,669	166,669
1936	18,000	229,020				247,020	247,020
1937	18,000	261,865				279,865	\$ 8,408
1938	18,000	237,005				255,005	18,262
1939	18,500	294,105				312,605	27,514
Estimated:							
1940	20,900	443,114			\$ 32,327	496,341	25,534
1941	24,750	521,873			137,161	683,784	28,138
1942	26,950	567,082			201,585	795,617	29,623
1943	26,950	575,120			214,043	816,113	29,888
1944	29,700	625,242			293,402	948,344	31,342
1945	31,350	668,925			362,567	1,062,842	32,631
1946	31,900	670,154			364,515	1,066,569	32,690
1947	31,900	547,142			173,170	752,212	29,072

Note: (A) 7 months

On cross-examination with respect to these exhibits, Lusk stated that there were involved two Federal Excess Profits Taxes: First, the "declared value excess profits tax," which was complementary to the Federal Capital Stock Tax, both of which had been in effect for many years; and second, the new excess profits tax imposed on corporations by the Second Revenue Act of 1940. He stated that under the Federal statute the capital stock tax and the declared value excess profits tax were so designed that the company was allowed to declare a capital stock tax base or value in any amount it chose. It then paid a capital stock tax at a rate of \$1.10 per \$1,000, of declared value (originally \$1 per \$1,000). Percentages of this same "declared value" are then subtracted from the net income to determine the taxable "declared value excess profits" and such excess profits are taxed at the rate set forth in the Act. He stated that it was to the advantage of the company to declare a value (and pay a capital stock tax thereon at the rate of \$1.10 per \$1,000) high enough to avoid a declared value excess profits tax at much higher rates (Vol. XLVIII, pp. 6623-26). Explaining how these two taxes were related and how it was more economical to pay the capital stock tax and avoid excess profits tax, he said:

"To take the year 1940, the declared value, instead of being \$19,000,000, assume it was \$10,000,000. Our income for that year was \$1,500,000. We would immediately fall into the declared value excess profits tax because our income was \$1,500,000, and ten per cent of our declared value of \$10,000,000 would be only \$1,000,000. We would immediately have to pay an excess profits tax on \$500,000, so it is much more economical to increase the capital stock base than it is to fall into the surtax values." (p. 6626).

He then pointed out that because the company had neglected to declare a sufficiently large capital base or value in 1935 it was penalized with a large excess profits tax, stating:

"I might add in that connection that the company in 1935 fell into the error of being forced to pay a declared excess profits tax of \$18,000 and they aren't going to let that happen again.

"The Trial Examiner, That is what that lone item out there stands for!

"The Witness: Yes, sir." (p. 6627).

He then explained the operation of the new additional excess profits tax imposed by the Second Revenue Act of 1940 and which, for the purpose of his computation, he assumed would continue in effect without increase, as he did with the other tax rates for the purpose of his exhibits. He explained how excess profits taxes were assessed in addition to normal taxes and as an example took 1940, as follows:

"Well, now, how did you arrive at your estimate, say, for the year 1940, of the figure \$712,592, Column 4, Statement 4 of your exhibit?

"A. If we take the estimated revenue less the estimated operating expense and less the actual interest to be paid on the bonds of Colorado Interstate Gas Company, and after deducting depreciation, allowed under the Internal Revenue Department's rulings, we will arrive at a figure which produces the 24 per cent normal income tax of \$443,114.

"Now, in addition to that under the 1940 Internal Revenue Act that \$443,114 represents the tax on the amount of net income which is in excess of the average for 1936, 1937, 1938 and 1939. That excess under the 1940 Revenue Act produces an excess profit tax of \$226,591.

"Q. You proceed from that point, that is, from 1940 through 1947, in making these estimates in Column 5, Statement 5, on the assumption that the 1940 Revenue Act, of course, will remain the same and the same provision will apply?

"A. That is the only assumption we can make." (pp. 6619-20).

This example of the computation employed the figures for the year 1940 of Statement 5 of Exhibit 170 before they were amended, by Statement 5, Exhibit 170-B, but the principle and the method are the same. The figures shown for Colorado Income tax under the state law which became effective in 1937 were in the amounts actually paid for 1937.

(fractional year) and for 1938 and 1939 and are estimated for the years 1940 to 1947 inclusive on the assumption that the same rates will obtain (pp. 6620-21).

The new excess profits tax was calculated as the act permits on the basis of the "average income method"; that is, the average for 1936, 1937, 1938 and 1939 (Statement 5, Exhibit 170-B). He explained that the terms "normal tax" and "excess profits tax" were used as those terms were defined in the income tax laws p. 6621).

The Commission's accountant Early in his Exhibit 140 suspended all state and Federal income taxes pending determination by the Commission of what he called "a fair return," stating:

"The Examiner recommends that expenses chargeable to the ratepayers include, with respect to income tax, only such an amount as would represent the necessary taxes required to be paid, based upon the income which the Commission determines it is proper for the company to earn." (Exhibit 140, p. 11; Vol. XXXV, p. 4877). 4877).

By his Entry 142, Exhibit 140, this same accountant Early removed from the expense account for 1937 \$944.67 excess profits tax paid for that year. He stated:

"Excess profits taxes are not regarded as a necessary cost of conducting gas operations and are therefore not includible in expenses which are to be borne by gas consumers."

By his Entry 143 this same accountant removed from operating expenses \$17,707 for 1937; \$22,184 for 1938; and \$22,693.50 for 1939 representing a portion of the capital stock taxes paid. He stated:

"Since excess profits taxes are not a necessary cost of conducting gas operations, capital stock taxes paid to avoid payment of excess profits taxes are likewise not properly includible in the cost of gas operations."

He had not determined whether the company might have paid "excessive ad valorem taxes" which ought to be disallowed on the same principle (Vol. XXXV, p. 4878). He

admitted that whether an excess profits tax was paid had no reference either to the original cost of the property or any valuation of the property.

"Q. Now, the determination of that unreasonable rate, if there was one, is not made in the same manner as the determination whether excess profits taxes would be under that Federal law. You don't compute them the same way?

"A. That is correct.

"Q. So that don't you believe that there is a difference in your interpretation of what excess profits taxes as levied by the Federal law are in its relationship to a rate case of charges which ought to be charged against the rate payers?

"A. I do not even recall or do not know enough about the excess profits tax law to recall exactly how that item is computed.

"Q. . . . You have already said that, and you have just said that you are not very familiar with the excess profits law; so maybe wasn't it the phrase 'excess profits' that caught your eye, and you just assumed that possibly that would carry over?

"The Witness: I perhaps should not have said that I knew that the methods of computing the taxes were different." (Vol. XLVI, pp. 6403-04).

As to the capital stock tax, although it was based upon purely voluntary declaration of value, he eliminated a portion of the tax corresponding to a portion of the value eliminated and which he himself had allocated to the cost of contracts (pp. 6405-06). He would allow capital stock tax only on a declared value corresponding to "stock issued for a cash consideration" or its equivalent (p. 6405).

On cross-examination Lusk was asked to furnish a reconciliation between the total net earnings of the company and the taxable income shown in these exhibits for each of the years 1928 to 1947 inclusive, which he did in Exhibit 170-A.

In conclusion with respect to these exhibits, Lusk pointed

ut that the cumulative total through 1947 of balance net earnings "available for depreciation and amortization" as shown in Column 6, to-wit, the total \$13,849,646, would fall considerably short of amortizing and depreciating the company's total accumulated investment through that same period, or original cost rate based up through 1947 in the total amount of \$15,151,812. The deficiency will be \$1,302,666; that is, \$15,151,812 less \$13,849,646. (Exhibit 170, p. 2, as amended Exhibit 170-B, Statement 1).

The deficiency in that amount is arrived at on the following assumptions:

First, that the present prices or rates for gas will continue and that the revenues of the company will hold up as shown in Exhibits 56 and 43 as abstracted under Title 15 supra.

Second, that the cost of gas shown by Exhibit 164, as abstracted under Title 25 supra, will remain the same.

Third, that other operating expenses and operating taxes as shown by Exhibits 76, 135 and 135-A, as abstracted under Title 23 supra, will not increase over the estimates therein made.

Fourth, that the Federal and state income taxes and capital stock taxes based on present laws (1940) and as abstracted and computed herein, will not be increased (Vol. XLVIII, p. 6620):

ALLEGED SUSPENSION FOR FURTHER INVESTIGATION BY THE COMMISSION
FOR THE YEARS 1927, 1930 AND 1932

Line
No. Statement
Suspension No.

1937
(5) Year ended December 31, 1937
(5)

Particulars
(2)

C (Cont'd)

In view of the statements made by Mr. Lorch and the relative smallness of the amounts involved, it is recommended that the charges identified by the suspension be allowed as necessary and legitimate expenses and therefore included in the cost of conducting gas operations. Suspension has been made by the Examiner primarily in order that the Commission might have before it in this suspension and in Suspension B a summation of service charges made by associated companies to the Respondent and included in its operating expenses.

Federal income tax

\$ 391,526.13 \$ 309,837.61 \$ 335,064.22

Income taxes for the years 1937, 1938 and 1939, as adjusted, have been suspended for further study and consideration by the Commission and its staff for the reason that the income received by the Respondent, and which constituted the basis for the assessment of its income taxes, may, as a result of this proceeding, be found to have been in excess of a fair return. The Examiner recommends that expenses chargeable to the taxpayers include, with respect to income taxes, only such an amount as would represent the necessary taxes required to be paid based upon the income which the Commission determines it is proper for the Company to earn.

Colorado income tax

\$ 27,514.12 \$ 18,262.11 \$ 8,407.57

The comments above under Suspension D also pertain to Suspension E
Items charged to expense claimed as cost of gas plant in report of
Ford, Bacon & Davis, Inc., dated April 15, 1940

Certain expenses for the years 1937, 1938 and 1939, now claimed by the Respondent as gas plant capital expenditures, have been suspended in order that the expenses so claimed may be identified for the attention of the Commission and its staff. The report of Ford, Bacon & Davis, Inc. covering the claim for restatement of plant has been filed with the Commission by the Respondent. A reconciliation of the amounts shown in the report of Ford, Bacon & Davis, Inc. for the years 1937, 1938 and 1939 with the amounts of this suspension is as follows:

	1939	1938	1937
Per Ford, Bacon & Davis, Inc. report	\$14,822.65	\$52,051.24	\$56,777.13
Portion of order 270 (making profile map) claimed as gas plant, expended in the year 1937, and closed to expense in the year 1938		(559.21)	559.21
(The entire amount charged to this work order in the year 1937 is transferred to 1937 operating expenses in Examiner's entry R-151)			

Less, interest during construction claimed as gas plant, not included in this suspension

(238.80) (1,333.27) (1,645.34)
\$14,583.75 \$50,158.76 \$55,691.00

Per this suspension

Docket G-124

Schedule B-16
Sheet 36 of 50

COLORADO INTERSTATE GAS COMPANY
EXAMINER'S RECLASSIFYING AND ADJUSTING ENTRIES
RELATING TO THE INCOME ACCOUNT

56

Particulars	Year to Which Applicable	Debit	Credit
No. 142			
Miscellaneous income deductions.	1937	\$ 944.67	
Taxes - Federal income and excess- profits taxes	1937		\$ 944.67

To transfer Federal excess-profits tax paid for the year 1937 to miscellaneous income deductions. Excess-profits taxes are not regarded as a necessary cost of conducting gas operations and are therefore not includible in expenses which are to be borne by gas consumers.

COLORADO INTERSTATE GAS COMPANY
EXAMINER'S RECLASSIFYING AND ADJUSTING ENTRIES
RELATING TO THE INCOME ACCOUNT

57

Particulars	Year to Which Applicable	Debit	Credit
No. 143			
Miscellaneous income deductions	1939	\$ 22,693.50	
do.	1938	22,184.00	
do.	1937	17,707.00	
Taxes - Federal capital stock tax	1939		\$ 22,693.50
do.	1938		22,184.00
do.	1937		17,707.00

To transfer to miscellaneous income deductions the portion of Federal capital stock tax for 1937, 1938 and 1939 not properly includible in gas expenses, computed as follows:

	1939	1938	1937
Capital stock account per books	\$4,352,941.17	\$4,352,941.17	\$4,352,941.17
Deduct: Amount credited to capital stock representing value placed upon contracts to buy and sell gas (See also Examiner's entry No. 224 re plant account)	<u>2,352,941.17</u>	<u>2,352,941.17</u>	<u>2,352,941.17</u>
Balance (represents stock issued for cash consideration)	\$2,000,000.00	\$2,000,000.00	\$2,000,000.00
Surplus, per books, at beginning of each year	<u>2,495,890.30</u>	<u>2,366,937.89</u>	<u>2,609,196.84</u>
Total adjusted base for Federal capital stock tax purposes	<u>\$4,495,890.30</u>	<u>\$4,366,937.89</u>	<u>\$4,609,196.84</u>
Tax at \$1.00 per each full \$1,000.00	\$ 4,495.00	\$ 4,366.00	\$ 4,609.00
Tax per Respondent's books	<u>27,188.50</u>	<u>26,550.00</u>	<u>22,316.00</u>
Excess transferred to miscellaneous income deductions	<u>\$22,693.50</u>	<u>\$ 22,184.00</u>	<u>\$ 17,707.00</u>

Further Testimony of the Company's Witness, Lusk.

Q. Mr. Lusk, the figures in Column 5, Statement 5, Exhibit 170, are the ones that are corrected in your Exhibit 170-B, Statement 5, Column 5?

A. Yes, sir, that is the only change.

Q. And the figures in Column 5, Exhibit 170-B, are computed on the basis of the present act as well as the latest regulations of the Treasury Department?

A. No, the last two years—the last amendment was not considered in this.

Q. It was not?

A. No, sir. That is the amendment that states where the last two years are higher than the first two years the last two years can be used as a basis for computing excess profits.

Q. Do you have Exhibit 285 there before you, Mr. Lusk?

A. Yes, sir.

Q. Turn to Statement 5 of that exhibit, Column 3 of your Exhibit 170-B. Why does the normal tax differ in each one of those, one from the other, in those two exhibits?

A. Well, on Exhibit 285 everything is computed on an 8 per cent return, and on Exhibit 170-B in connection with Exhibit 170, that is computed on an estimated annual revenue derived on a sales basis.

Q. I see, and based on the presently existing contracts?

A. That's right.

Q. So that would indicate a present earning in excess of 8 per cent?

A. That is on Colorado Interstate.

Q. Yes.

A. Exhibit 285 does bring that out on Statement 1.

Q. That's right.

A. Yes.

Mr. Lange: That's all.

● Redirect Examination.

By Mr. Dougherty:

Q. Mr. Lusk, you also have a different cost of gas to Colorado Interstate Gas Company in the statements which are the basis of 170 as compared with the cost of gas in 285?

A. That's correct.

Q. So you would have to have a completely different computation in each exhibit?

A. That's right. The cost of gas changes with the 8 per cent return.

(Vol. C, pp. 15462-15464.)

Q. Now, you have included it, as I take it, in what you term original cost rate base, first of all the original cost. Now, what do you define under original cost, Column 2, Statement 2 of the exhibit?

A. That is the original cost to the Colorado Interstate Gas Company as indicated in Exhibit No. 67 and Exhibit 133.

Q. Those figures in Column 2, are they per book cost?

A. They are as per books with certain adjustments.

Q. Which adjustments are all reflected in Exhibit 67 and Exhibit 133?

A. Yes, sir.

Q. And those adjustments—strike that.

The original cost as set up by you, Column 2, Statement 2, that also carries forward again the reclassification of certain items that we have discussed heretofore in connection with those exhibits?

A. That is correct, and as a contra to that over in the operating expenses on Statement 4, Exhibit 135, and a contra deduction has been made for those items against expense.

Q. Against expense?

A. Yes, sir.

Q. Now, then, the second element that you have gone into is what you term the original cost rate base as set up in Column 3, Statement 2. That is the cost of gas contracts?

A. That is correct.

Q. Under what theory do you include that in your rate base?

A. My theory is that the Colorado Interstate Gas Company is entitled to include cost of gas contracts in its rate base and earn a return on the cost of those contracts.

Q. For that reason you have included them in your Statement 2 as an element in that original cost rate base?

A. Yes.

(Vol. XLVIII, pp. 6609-6610.)

Further Testimony of the Commission's Witness, EARLY.

Q. Mr. Early, if you will please turn to your Adjustments 142 and 143 on Pages 56 and 57—

A. Yes, sir.

Q. What is your authority for your statement that excess profits taxes are not regarded as necessary cost of conducting gas operations?

A. That is my opinion.

Q. You understand, I assume, that the determination of excess profits taxes in 1937, as well as in 1938 and 1939, are not made on the basis of the original cost of the property or any valuation of the property and the net earnings being earned therefrom?

A. Just a moment. There were no excess profits taxes except in the year 1937.

Q. Well, I'll limit it to that. What I had in mind is this, that the determination of whether an excess profits tax was to be paid in 1937 had no reference to either the original cost of the property or any valuation of the property?

A. According to my knowledge of the tax law, that is correct.

Q. So that it is not computed in the same way as the determination of either expenses—not expenses—is not computed in the same way as the question of revenues or profits made from utility operations and the determination of whether those are in excess of a reasonable rate?

A. I don't understand that question.

Q. Well, you have a different basis? You speak in your testimony here and in your exhibit a number of times about if the rates were higher than they should be and therefore more money was made than would be justified on reasonable rates—you mention that in different times in your report.

A. That is correct.

Q. Now, the determination of that unreasonable rate.

if there was one, is not made in the same manner as the same manner as the determination whether excess profits taxes would be under that Federal law. You don't compute them the same way!

A. That is correct.

Q. So that don't you believe that there is a difference in your interpretation of what excess profits taxes as levied by the Federal law are in its relationship to a rate case of charges which ought to be charged against the rate payers?

A. I do not even recall or do not know enough about the excess profits tax law to recall exactly how that item is computed.

Q. Well, you said it was your own opinion that these taxes ought not to be charged against the rate payers. What are your reasons for that?

A. My reason for that is that if the company earns a profit which is large enough to be taxed with excess profits taxes, it might follow that they are also—well, it might follow that chart excess profit is more than a reasonable rate of return.

Q. Of course, you do recognize the fact that the methods of computing both are different? You have already said that, and you have just said that you are not very familiar with the excess profits law; so maybe wasn't it the phrase "excess profits" that caught your eye, and you just assumed that possibly that would carry over?

A. Read that, please.

(The question referred to was read by the reporter as set forth above.)

The Witness: I perhaps should not have said I knew that the methods of computing the taxes were different.

By Mr. Dougherty:

Q. Do you know that they are the same?

A. No.

Q. Do you know anything about it?

A. No.

Q. Now, then, let's turn to 143 which is on Page 57. I note in your computation of the tax base upon which capital stock taxes are paid you have included surplus for each year, 1937, 1938 and 1939.

A. That's correct.

Q. Now, I observe, however, that that is not surplus which has been established by you in this exhibit on the basis of what adjustments you have made and also on the basis of revisions of depreciation and amortization.

A. That is correct. The surplus figure, as I state here, is as per books.

Q. Now, I note, however, that you did deduct \$2,352,941.17 which is per books because that had been adjusted by Mr. Schutte.

A. That is correct.

Q. Well, why don't you treat both of them the same way? If you are going to build up surplus for some purposes, why isn't it good for all purposes?

A. I believe that the two cases aren't identical. The elimination of the capital stock representing the capitalization of the contract to buy and sell gas is in my opinion an elimination that is required or is necessary to bring the capital stock account down to that which represents stock issued for a cash consideration, or in other cases for any consideration. The adjustments increasing the surplus account, however, as I have previously stated, I do not know whether they would be reflected on the company's books or not.

Q. Well, you don't know whether the adjustment that Mr. Schutte made is going to be reflected on the company's books either, do you?

A. No, I do not know that it is going to be reflected on the company's books, no.

Q. It looks like you have got a "heads you win, tails we lose" proposition. What I would like to know here is why you don't follow the same rule in both instances. If your adjustment in surplus is good enough for certain purposes in your report, why isn't it good enough for this?

A. It seems to me that if I were to use the adjusted surplus figures here I would be attempting to compute the company's—what the company's—I would be restating the company's surplus in tax accounts from 1937, and that has not been my intention.

Q. Well, you have restated the surplus account of the company right up through 1939.

A. Yes, but I have not meant to imply that that would be reflected on the company's books.

Q. Well, of course, none of this computation that you have made here on Page 57 would ever be reflected on the company's books?

A. Not to my knowledge.

Q. Well, the taxes have been paid?

A. That is correct.

Q. And the thing that you were doing here was determining what you call a total adjusted base for Federal capital stock tax purposes. Now, you recognized, apparently, in determining that phase. Under your theory you add surplus to what you call the corrected capital stock account?

A. That is correct.

Q. Well, don't you have much confidence in the surplus figure which you have boosted up from five million dollars here altogether?

A. I think it is approximately four million dollars—yes, I have confidence in those figures.

Q. But not confidence enough to use it for the purpose of determining what an adjusted base for Federal capital stock purposes is?

A. No, I have attempted to show here the capital stock tax which in my opinion the company should have—or, rather, would have paid had not there been included there in the capitalization of franchises and contracts, and also had not the tax been based upon a declared value far in excess of the book value.

Q. Yes, but what you have here is a tax base which takes the capital stock account by the books and subtracts a deduction which reflects an adjustment made by Mr. Schutte and which you have said should have been made but doesn't accept and doesn't include any addition to surplus which has been and is included in your report. That is exactly what has been done?

A. That is exactly correct.

Q. Now, in your report, altogether, in every respect it includes all of the gas business of the Colorado Interstate Gas Company. All revenue has been taken in here and all expenses, full income?

A. Correct.

Q. There has been no attempt by you to determine what part of the income of the company comes from the gas that it sells directly to industrial consumers in Colorado in this exhibit?

A. No, I have made no allocation—pardon me, Mr. Dougherty, you say the portion of the revenue or the net income?

Q. Net income.

A. Yes.

Q. What portion of the profits come from that?

A. My answer is correct.

Q. You made no attempt to determine what portion of the profits come from the sale of gas to the Natural Gas Pipeline Company of America?

A. No, sir.

Q. So you don't know whether the excess profits which you say would have resulted here, or at least would have resulted if the tax base had not been declared as it was declared, would result from those items of business?

A. Which items of business?

Q. The business of selling gas directly to industrial consumers and the business of selling gas to the Natural Gas Pipeline Company of America.

A. No, I have made no allocations of net income.

Q. So that if the excess profits came from that other business they wouldn't represent excess charges made to the other customers in Colorado?

A. I am sorry, I do not understand the question, Mr. Dougherty.

Q. Well, probably you have covered the point when you say you have made no allocation, you have just taken it on the broad overall basis.

A. That is correct.

Q. Is there any account other than 507 that you charge to taxes under the Federal Power Commission Code referring to tax expense, particularly Federal income tax or State income tax or capital stock tax or excess profits tax?

A. I might refer you to Page 7 of the System of Accounts, general instruction No. 2, Paragraph F. I'll read that:

“All charges to the accounts prescribed in this system for gas plant, operating revenues and operating expenses

shall be just and reasonable and any payments by a natural gas company in excess of just and reasonable charges shall be included in Account 538, miscellaneous income deductions."

Q. Do you think that the taxing authorities made an unjust and unreasonable charge against us? That is what that refers to.

A. I did not.

Q. Well, that is what that account is that you have read.

A. The computation—I did not determine that it was an unreasonable billing.

Q. That instruction you just read refers to whether or not a payment made by a gas company is unreasonable, not whether or not what it collects is unreasonable. That is that would mean that if the tax we pay was unreasonable, then we could only charge into gas expense the amount that was reasonable. That applies to every expenditure, doesn't it? If the Colorado Interstate Gas Company pays me a fee that is more than reasonable, under that item the Commission could make them charge such portion as was unreasonable to that item, isn't that correct?

A. My interpretation of that paragraph—it is not official—is that it related to charges in excess of just and reasonable charges to the rate payers.

Q. Well, your idea would be, then, that the difference between a reasonable rate and what is not a reasonable rate would go against miscellaneous income deductions. That would be the result of what you are talking about?

A. You speak of a reasonable rate for what?

Q. Well, for what you are selling the rate payers, whatever it is. What you are doing is trying to interpret out of the language, just and reasonable, which is the amount that would permit you to charge an expense into Account 538 because you would say it is not just and reasonable to the rate payers? Well, that doesn't say "rate payers" here, does it?

A. No, that is not mentioned.

Q. What they are talking about here is whether it, in and of itself, is a just and reasonable charge, isn't that correct?

A. My interpretation is "charges in excess of just and reasonable charges to the rate payer."

Q. That is your own interpolation?

A. Yes, sir.

The Trial Examiner: That is, you mean a tax that results from an unjust and unreasonable charge to the rate payers, is that what you had in mind?

The Witness: Yes, sir.

Mr. Dougherty: That is what he has done. That isn't what the instruction says, which we just developed, with which he agrees.

The Trial Examiner: I gather that that is his interpretation.

Mr. Dougherty: That is his interpretation.

(Vol. XLVI, pp. 6402-6412.)

Further Testimony of the Company's WITNESS, LUSK.

Q. Now, the income and capital stock taxes in Column 4, are they exactly as far as 1939 was concerned?

A. It is an actual computation on all gas of the Denver line.

Q. You mean you allocated this portion of the tax to the Denver line?

A. No, sir, we computed it.

Q. You computed it?

A. Yes.

Q. Well, do these represent portions or represent taxes actually paid through 1929?

A. A portion of them do, yes, sir.

For instance, in 1939 the Colorado Interstate Gas Company for all of its business was assessed an income tax for \$392,000. Now, this total Federal income tax applicable to resale gas from the Denver line alone is computed at \$312,605.

Q. Well, that is set forth in Column 6, Statement 5, isn't it?

A. That is right.

Q. That isn't as per books?

A. That \$312,605 includes the capital stock tax, the normal income tax as well.

Q. What was the total?

A. The total income tax in 1939 was \$392,000.

Mr. Dougherty: Mr. Lusk, you used the term "resale gas" in the Denver line in your answer just preceding this question. This exhibit contains all gas from the Denver line?

The Witness: Yes, sir.

In 1939 the Federal income tax of Colorado Interstate Gas Company was \$392,000 and the Federal capital tax was \$27,188.50.

By Mr. Lange:

Q. How do you arrive at that allocation factor, then?

A. We didn't allocate it. All of these taxes are computed on a strictly income basis.

Q. They are computed on a strictly income basis?

A. Yes.

Q. What are your proper divisions for the year 1938? How did you arrive at that?

A. That is a computed amount. The Federal income tax in 1938 was \$309,000; that is, on all profits of Colorado Interstate Gas Company, and the Federal capital stock tax was approximately \$25,000. I don't see it in the working sheet here, but I know it was paid.

Q. Has it been computed for each of the preceding years also?

A. Yes, sir, in each of the preceding years and each of the years from 1940 to 1947. All of these taxes have been computed, based strictly on the income basis taken from the income and expense shown in the previous sheets of this exhibit.

Q. Well, now, how did you arrive at your estimate, say, for the year 1940, of the figure \$712,592, Column 2, Statement 4 of your exhibit?

A. If we take the estimated revenue less the estimated operating expense and less the actual interest to be paid on the bonds of Colorado Interstate Gas Company, and after deducting depreciation, allowed under the Internal Revenue Department's rulings, we will arrive at a figure which produces the 24 per cent normal income tax of \$443,114.

Now, in addition to that under the 1940 Internal Revenue Act that \$443,114 represents the tax on the amount of net income which is in excess of the average for 1936, 1937, 1938 and 1939. That excess under the 1940 Revenue Act produces an excess profit tax of \$226,591.

Q. You proceed from that point, that is, from 1940 through 1947, in making these estimates in Column 5, Statement 5, on the assumption that the 1940 Revenue Act, of course, will remain the same and the same provision will apply?

A. That is the only assumption we can make.

Mr. Dougherty: At least, that percentage wouldn't be any lower than that?

The Witness: I am quite sure of that.

Mr. Dougherty: You haven't made the assumption it wouldn't be increased?

The Witness: I haven't made that assumption and I haven't made the assumption it wouldn't be lower.

By Mr. Lange:

Q. You made the assumption that the yardstick in the tax will also remain there?

A. Yes, sir, that is the latest Internal Revenue Act.

Q. In what fashion did you proceed on your Colorado State income tax, Column 7, Statement 5?

A. The Colorado—

Q. First of all, as to 1939, 1938 and 1937, as to those figures, where did they come from?

A. The Colorado State income tax?

Q. Yes.

A. Actual payments.

Q. Actual payments?

A. Yes.

Q. They were not computed figures there?

A. No.

Q. For 1940?

A. From 1940 through to 1947 the computation for Colorado State income tax is based on a relation of the actual payment for 1937, 1938 and 1939 to the net income.

Q. Now, what did you mean by "normal" as you have described it under the Federal income tax in Column 2, Statement 5 of the exhibit?

A. That is the normal tax as set forth in the Revenue Act in the previous years.

Q. You are using the phrase "as defined." Where do you get the word "normal" itself?

A. In the Act itself in Section 101, Paragraph B.: "Imposition of tax—there shall be levied, collected and paid for each taxable year upon the normal-tax net income of every corporation and the normal-tax net income of which is more than \$25,000"

Q. You have applied the amount as indicated in the Act?

A. Yes, sir, to arrive at the figures in Column 2.

Q. To arrive at the figures in Column 2?

A. That is right.

Q. Statement 5?

A. Statement 5.

Q. Now, how did you arrive at the—strike that.

And those computations for the years 1928 through 1939 are actually obtained on that basis?

A. Yes. We take from 1928 to 1939 and compute all of the tax assessed against the Colorado Interstate Gas Company under the heading of "Normal Tax" purposes so as to distinguish it from the excess value of profits tax and undistributed profits taxes, or any excess surplus accumulation which is another form of tax, and which is not shown here as being paid, but the normal tax itself is taken right from the wording and the definition in the various revenue acts applicable to the years 1928 through 1939.

Mr. Dougherty: You used the percentages that each of those laws had in effect in those years?

The Witness: We used the actual rates.

By Mr. Lange:

Q. When you proceeded beyond 1940, how did you arrive at the estimate under Column 2?

A. Well, in Column 2 we are taking 24 per cent of the net income which is computed, using the statement preceding this as the basis, and using the operating expenses which are also shown in this exhibit.

Q. And you based that on the 1940 tax law?

A. Yes, sir.

Q. Now, what rate did you use for the 1940 estimate?

A. 24 per cent.

Q. And for each of the following years?

A. 24 per cent.

Q. Now, your capital stock in Column 2, is that actually from 1933 to 1939?

A. No, that is also computed?

Q. How?

A. For all gas purposes.

Q. Just how did you go about it? What are the mechanics of that?

A. The mechanics of it are this: I used the company's method of working out on the basis of net income, using a capitalization rate of either ten or 12½ per cent. In other words, the company had \$800,000 of income and they capitalized it at 12½ per cent, and I would take it and multiply by eight and that would be all. They had the same thing at ten per cent which they actually did in those years. They assumed a base income and capitalized it at either ten or twelve and one-half per cent and used that as their capital stock declared value.

Q. Under Column 1 the tax for 1939 is \$18,500. Under what acts was that computed?

A. That is under the 1935 or 1936 act.

Q. When you arrived at an estimate for 1940, how did you arrive at the \$20,900 as listed under that column?

A. That is done in the same manner. The mechanics are exactly the same.

Q. Is there a different rate applicable to make that amount?

A. No, sir, there is no rate on the capital stock tax at all except the capitalization rate. I used 12½ per cent which is the rate the company used for the years 1934, 1935, 1936, 1937, 1938 and 1939.

(Vol. XLVIII, pp. 6617-6624.)

30. Estimated Net Operating Earnings After Income and Capital Stock Taxes of Colorado Interstate from an Assumed Denver Line for Resale Gas Only Under Its Contracts, 1928 to 1947, Inclusive, Applicable to Depreciation and Amortization and a Return on Equivalent Original Cost of Its Property, Plus Working Capital.

Exhibit 172 (Vol. XLIX, p. 6720), as amended by Exhibit 172-A (Vol. C., p. 15465), both presented by the company's witness Lusk in a manner similar to his method employed in the preceding subdivision, bring together the following data for the purpose of presenting the facts set forth in the caption:

The equivalent original cost of "a Denver Line for resale gas only," Exhibit 134 abstracted under Title 20 supra.

The cost of contracts, Exhibit 77. This exhibit and Exhibits 1, 16, 7-H, 7-I, 7-E are abstracted under Title 19 supra.

Adjusted necessary working capital, Exhibit 70 abstracted under Title 22 supra.

Past and estimated future revenues from resale gas only, Exhibits 43 and 56. These exhibits, as well as 59, 60, 63, 72 and 293, are abstracted under Title 15 supra.

Annual operating costs and operating taxes of a "Denver Line for resale gas alone," Exhibit 136 abstracted under Title 24 supra.

Cost at the contract price at Clayton Junction of resale gas only, Exhibit 167 abstracted under Title 26 supra.

The witness, in the Exhibits 172 and 172-A, computed Federal and state income taxes and Federal capital stock and like taxes arising from the sale of resale gas only in the same manner as outlined in the preceding subdivision for all gas. Since his method was the same, we reproduce here only the total of such taxes for the years 1932 to 1947 inclusive, there being no tax prior to 1932 when resale gas alone is considered.

1932.....	\$ 2,840	1940.....	\$283,925
1933.....	3,200	1941.....	415,398
1934.....	3,200	1942.....	526,327
1935.....	54,446	1943.....	557,172
1936.....	87,696	1944.....	662,557
1937.....	132,715	1945.....	770,633
1938.....	143,439	1946.....	769,038
1939.....	159,193	1947.....	436,808

(Statement 5, Exhibit 172, as amended by Statement 5, Exhibit 172-A.)

After giving effect to all the foregoing data and factors, Exhibits 172 and 172-A show net operating earnings remaining for depreciation and amortization after first deducting amounts necessary for return. These results are set forth in Statement 1 of Exhibit 172, as amended by Statement 1, Exhibit 172-A, as follows:

Colorado Interstate Gas Company

"A Denver Line for Resale Gas Alone"

Rate Statement Showing Net Operating Earnings Applicable to Depreciation, Amortization and Return, 1928 to 1947 Inclusive

Calendar Year	Original Cost Rate Base at Jan. 1st	Revenues Resale Gas Sales and Rentals	Operating Costs and All Taxes	Net Operating Earnings for Return, Depreciation and Amortization		
				Total Net Earnings	Amount Required for 8% Return	Available for Depreciation and Amortization
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Actual						
1928 (A)	\$10,064,790	\$ 471,229	\$ 274,129	\$ 197,100	\$ 469,690	\$ -272,590
1929	10,297,805	1,552,909	505,823	647,086	823,824	-176,738
1930	10,760,908	2,172,641	1,643,864	528,777	860,873	-332,096
1931	11,483,345	2,433,741	1,789,687	644,054	918,668	-274,614
1932	12,715,436	2,553,260	1,716,740	836,520	1,017,235	-180,715
1933	12,846,179	2,121,096	1,537,532	583,564	1,027,694	-444,130
1934	12,824,128	2,049,680	1,344,141	705,539	1,025,930	-320,391
1935	12,910,440	2,311,043	1,292,677	1,018,366	1,032,835	-14,469
1936	13,072,752	2,544,737	1,382,540	1,162,197	1,045,820	116,377
1937	13,120,685	2,877,754	1,507,352	1,370,402	1,049,654	320,748
1938	13,285,460	2,839,830	1,545,838	1,293,992	1,062,837	231,155
1939	13,434,181	2,948,226	1,665,407	1,282,819	1,074,734	208,085

Estimated						
1940	14,130,771	3,212,499	1,951,326	1,261,173	1,130,462	130,711
1941	14,134,771	3,434,113	2,058,869	1,375,244	1,130,782	244,462
1942	14,141,771	3,575,908	2,124,387	1,451,521	1,131,342	320,179
1943	14,373,771	3,703,123	2,223,806	1,479,317	1,149,902	329,415
1944	14,374,771	3,837,599	2,298,783	1,538,816	1,149,982	388,834
1945	14,375,771	3,992,030	2,393,244	1,598,786	1,150,062	448,724
1946	14,376,771	3,992,030	2,447,051	1,544,979	1,150,142	394,837
1947	14,377,771	3,992,030	2,660,023	1,332,007	1,150,221	181,786
Total for Period		\$56,615,478	\$34,763,219	\$21,852,259	\$20,552,689	\$ 1,299,570

Note: (A) 7 Months.

The original cost rate base at January 1 for each of the years shown in Column 2 is comprised of the "equivalent original cost" of such a Denver Line for resale gas only, plus the original cost of the contracts, plus necessary working capital. The "operating costs and all taxes" shown in Column 4 include the cost of gas abstracted under Title 26 supra, the operating expenses and operating taxes, abstracted under Title 24 supra, plus state and Federal income and capital stock and like taxes, computed as above stated.

The accumulated total of balance net earnings "available for depreciation and amortization" through 1947 is \$1,299,570, whereas the total estimated "equivalent original cost" rate base accumulate through that period and which would have to be depreciated or amortized is \$14,377,771, resulting in a deficit of \$13,078,201.

The deficiency in that amount is arrived at on the following assumptions:

First, that the present prices or rates for gas will continue and that the revenues of the company will hold up as shown in Exhibits 56 and 43 as abstracted under Title 15 supra.

Second, that the cost of gas as shown by Exhibit 167, as abstracted under Title 26 supra, will remain the same.

Third, that other operating expenses and operating taxes, as shown by Exhibit 136, as abstracted under Title 24 supra, will not increase over the estimates therein made.

Fourth, that the Federal and state income taxes and capital stock taxes based on present laws (1940) and as abstracted and computed herein will not be increased (Vol. XLVIII, p. 6620).

Q. Mr. Lusk, in the preparation of this Exhibit 172, I understand that it confines itself to resale gas alone?

A. That's correct.

Q. And, of course, resale gas alone of Colorado Interstate Gas Company?

A. That is all.

Q. And, of course, in so far as the present actual operation of Colorado Interstate Gas Company and the operations of that company for all the years back, 1939 back to 1928, have in fact included sales both direct as well as re-sale?

A. That is correct.

Q. As is reflected in your Exhibit 170?

A. That's right. That takes in all gas.

Q. And as far as you know, that is the way that the company proposes to continue its operations as is indicated in your Exhibit 170 when you projected those total sales forward?

A. That is correct.

Q. Through 1947.

A. It is my understanding that the Colorado Interstate Gas Company will continue to sell all types and classifications of gas.

Q. Now; then, as I take it, this Exhibit 172 takes the figures as set forth in your Exhibit 170 and relates the applicable ones to resale gas alone in this Exhibit 172?

A. No, that is not quite correct, Mr. Lange. Exhibit 172 is a distinct compilation of its own.

Q. Of its own?

A. Yes.

Q. And in what respect does it find support in Exhibit 170?

A. The only material taken from Exhibit 170 is working capital for the purposes of this exhibit.

Q. All right, let's go to your Statement 1 of Exhibit 172, Column 1, which is labeled "Original Cost, Rate Base at January 1st."

Mr. Dougherty: Column 2.

Mr. Lange: Column 2.

The Witness: Column 2.

By Mr. Lange:

Q. I requested you yesterday on cross examination to give your definition of what you contemplate under the term "rate base," and I will ask you now whether that same definition applies here.

A. It does, yes.

Q. Now, in constructing this Column 2 which is designated "Original Cost Rate Base at January 1," what statement in your Exhibit 172 provides the support for that?

A. Statement 2 supports Column 2.

Q. And referring, then, to Statement 2 of the exhibit, Column 2, in what manner did you construct the figures under that column?

A. On Statement 2, Column 2, the figures are taken from Exhibit 134 with the exception of the first year, 1928, which is the book balance as of June 1, 1928. All of the other figures are taken from Exhibit 134. Now, Column 1, Statement 1, in Exhibit 170, finds its support in Statement 2 of that exhibit, Column 2.

Q. Yes—no, in Column 1, Exhibit 170.

A. I beg your pardon. That also finds its support, yes, sir, in Statement 2 of the Exhibit 170.

Q. And Statement 2 of your Exhibit 170 gives as the support the following items:

Original cost as of June 1st and cost of gas contracts, average working capital. I see in your Statement 2 of Exhibit 172 you say "equivalent original cost." You make that modification in order to comply with the figures set forth in Exhibit 134, or what?

A. That is the reason for it. I am using the heading and the classifications of Exhibit 134. "Equivalent Original Costs."

Q. Which, of course, means that it isn't the same even in adjusted figures comparable to the book figures?

A. No, the equivalent original costs in Exhibit 134 is the reduced cost of the pipe line from Clayton to Devine, reducing the diameter of the pipe from 22 inches to 20 inches, with the corresponding reductions, if any, in the compressing station.

Q. Now, then, in the next item supporting the original cost rate base in your Exhibit 172, Statement 2, that is cost of contracts. I see that is the same as that appearing in Column 3, Statement 2 of Exhibit 170.

A. That is the same amount, yes, sir.

Q. Now, then—the same amount both for the past as well as the estimated future are the same as that set forth in Exhibit 170?

A. Yes, sir.

Q. I believe I asked you in connection with that column and the items in that column in Exhibit 170 whether or not you had made any allocation as to any other market other than the Denver market and you stated you did not.

A. I did not.

Q. Because the contracts were already in existence prior to the time the Colorado Interstate Gas Company developed or acquired any other market, particularly the Chicago market.

A. That is correct.

Q. Now, then, here in this Exhibit 172 you are still not allocating, although isn't it very definitely set forth in that contract of January 3, 1928, that direct sales are a part of that contract, and naming those direct sales?

A. The direct sales are a part of that contract, yes, sir.

Q. Then, why should not a part of this cost of gas contracts be allocated to direct sales?

A. I had no basis in which to allocate them and I had no basis in which to separate the first contract.

Q. You had no basis?

A. I had no basis for making any allocation.

Q. Well, then, I will ask you, as an accountant in the light of your knowledge of the facts and in the light of your knowledge of the total volumes of gas that is attributable to direct sales during all of these years, whether it wouldn't have been proper to make an allocation of part of that cost for gas contracts to direct sales?

A. I wouldn't do that for the simple reason that the volume basis is not a sound basis.

Q. Is not a sound basis?

A. No, sir.

Q. Then, it is your position that the direct sales should not bear any part of that at all?

A. No, I am not of that opinion. As far as the separation of this cost of gas contracts is concerned, that is one of my immediate problems and I hope to solve it very soon.

Mr. Dougherty: Well, Mr. Lusk, this complete statement here is not based on allocation, is it?

The Witness: None of this is based on allocation.

Mr. Dougherty: That is, this 10-inch line project is not an allocation?

The Witness: That is not an allocation.

By Mr. Lange:

Q. You take the position in Exhibit 170 which covers all of the gas, both direct and resale gas, that cost of gas contracts is an item directly includable in the rate base, as you term it, for those entire sales?

A. That is true, yes, sir.

Q. Now, you attempt or make a separation that you would set up applicable to resale gas alone which is a part of the total sales contemplated and considered in your Exhibit 170?

A. That is correct.

Q. And a very substantial part of that gas that enters into the consideration in 170 is excluded from your Exhibit 172?

A. That is right.

Q. Well, then, as an accounting matter, shouldn't a part of that cost attributable to direct sales be allocated to those direct sales and not the entire amount attributable to these resale items alone?

A. Well, I think I stated, Mr. Lange, that the first part of this cost of gas contracts, \$2,000,000, was an amount represented by the stock issued to the Southwestern Development Company as nominee for the Canadian River Gas Company. I think I stated in my testimony that I don't dispute that there may be some part of that contract applicable to the direct sale gas, but that when I made this exhibit up I had no basis for separating it, and that is one of my immediate problems.

Q. Then, why couldn't you then, in light of the fact that that knowledge was absent and you didn't have it, why couldn't that entire amount, then, under Column 3, Statement 2 of Exhibit 172 be attributable to and charged to the direct sales?

A. Well, by making up a direct sale gas exhibit on the same basis as this, then I would still have the problem of separating the two million dollars gas contract costs.

Q. In other words, if you were preparing such a direct sales statement and still did not have any more informa-

tion with reference to how to allocate than you have now, you could very well have set up that whole cost to direct sales as well as you did to the resales here?

A. No, I wouldn't set up the entire cost because everything over and above two million dollars represents actual resale gas.

Q. No, but I am referring to the costs of gas contracts set forth under Column 3, Statement 2 of Exhibit 172 that you set up in their entirety in this resale exhibit in the same amounts as they have appeared in your Exhibit 170 covering all sales.

A. No, I wouldn't set that up for direct sales. As I mentioned—

Q. Why?

A. Everything over and above two million dollars is strictly resale gas.

Q. Well, then, what would you set up in such a statement of direct sales?

A. I am not prepared to state. I still repeat that I still have the problem of separating that two million dollars.

Q. And you haven't reached any conclusion on that?

A. No, sir.

Q. Well, then, if you would follow the same course of reasoning in connection with the preparation of that direct sale statement computation, why couldn't you have put at least two million dollars of that Column 3 item into that computation on direct sales?

A. That wouldn't be fair either.

Q. Why?

A. Because the direct sales are under the terms of the contract, the direct sales and resales are together.

Q. That's right, but what I am concerned about is your putting that entire amount in this resale computation in Column 3 of Statement 2 when it is definitely not only apparent but definitely assignable in the contract that direct sale customers named or in that contract of January 3, 1928, were contemplated at that time.

A. That is correct. They were both contemplated and both classes of customers contemplated in that contract—resale and direct sale.

Q. So that at this time in the absence of having made

any study, further study as to how to treat at least a portion of that cost of gas contracts, you say as an accountant that the items appearing in Column 3, Statement 2 of Exhibit 172 are in excess of what they ought to be for resale gas alone?

A. They are to the extent that I have not made any separation between the two million dollars cost of gas contract between direct sale and resale and I still have to work that problem out.

Q. And you aren't prepared to say as to what would be the fair amount that should be attributable to resale in so far as that particular item in Column 3 is concerned?

A. No, sir, I am not prepared.

Q. Now, you say that that is still a problem which you at this time have got to solve. What are your thoughts—what basis are you expecting to use to arrive at a solution of that?

A. That is the problem.

Q. That is the problem. Now, your average working capital, that is a computed figure in Column 4, Statement 2 of Exhibit 172, isn't it?

A. Yes, sir, it is. It is taken from Exhibit 170 and then computed on the basis of the operation expense ratio between all gas and resale gas.

Q. Now, what is your definition of "average working capital" as you have used it?

A. Well, this average working capital that I have used here and that we have used practically all through our exhibits, is a compilation of the operating expense, materials and supplies on hand, cash in local banks, all added together and divided by eight on a 45-day working basis.

Q. Oh, you utilize a 45-day working basis?

A. Yes, sir, and the basis of all of these computations of working capital throughout all of our exhibits is based on a 3- and 5-year average, and not confined to any one year.

Q. Just how would you as an accountant determine the proportionate part of the average working capital that could be allocated directly to resale gas by this company in the light of the fact that during the 3- or 5-year period that you used as support, the company in fact sold both resale and direct?

A. That is correct.

Q. I say, then, how did you go about making your estimate on a resale basis alone in the light of that history?

A. Well, it is just as I explained in the text in here and I think I can explain it again, that the average working capital determined for resale gas alone was based on the working capital contained in Exhibit 170 and the factors were derived by taking the ratios of the operating expenses between resale and all gas. Those operating expenses being the subject of previous exhibits.

Q. And when you are speaking of taking into consideration the company's actual experience over a period of years past, of course, that actual experience of the company was had in connection with their total sales which includes both resale as well as direct sales?

A. That is correct and that is what Exhibit 170—

Q. So in so far as that particular phase of it is concerned, you did predicate your working capital calculations on Exhibit 170?

A. That is correct, yes, sir.

Q. Right at that point, I don't know whether I asked you heretofore whether or not you had ever made any estimates or constructed any skeleton statement which had reference to direct sales of gas alone similar to this Exhibit 170?

A. No, sir.

Q. You did not?

A. No, sir.

Q. You don't know what those results would show?

A. I haven't tried it. I haven't attempted to.

(Vol. XLIX, pp. 6726-6737.)

31. Cost of Gas to Colorado Interstate at Clayton Junction as Computed by the Company for the Denver Line Determined on a Regulatory Basis and Under the Assumption That the Supply of and Markets for the Gas Continue Beyond 1948, the End of the Project Term, and Until the End of 1956.

These costs are shown in Exhibit 276. This exhibit and the testimony relating thereto is covered more fully by Canadian and is adopted by Colorado Interstate. The costs there shown are for the years 1939 to 1947 inclusive and are as follows (Statement 1):

Year	Production	Gathering	Transmission	Total
(1)	(2)	(3)	(4)	(5)
1939	\$ 643,088	\$ 129,199	\$ 567,573	\$1,339,860
1940	708,450	140,421	685,882	1,534,753
1941	734,493	146,270	710,724	1,591,487
1942	690,315	140,954	711,376	1,542,645
1943	680,726	142,170	784,333	1,607,229
1944	679,422	142,117	815,078	1,636,617
1945	674,970	144,344	843,626	1,662,940
1946	767,455	170,879	875,390	1,813,724
1947	1,399,104	370,245	914,542	2,683,891

As stated in the caption, the cost of gas in this exhibit is computed on the assumption that the supply of and market for gas will extend beyond the project term, that is, beyond 1948. In the cost, there is included amortization and depreciation spread through, so to speak, to the end of 1956. Such year was used for this purpose because other witnesses for the company estimated that the economic life of the field would cease by the end of 1956. The cost above stated accordingly reflects annual depreciation and amortization charges based on a life extending through 1956, however, the total cost of gas is estimated for the purpose of this case only through 1947.

32. Cost of Gas to Colorado Interstate at Clayton Junction as Computed by the Company for an Assumed Denver Line for Resale Gas Only Determined on a Regulatory Basis and Under the Assumption That the Supply of and Markets for the Gas Continue Beyond 1948, the End of the Project Term, and Until the End of 1956.

These costs are shown in Colorado Interstate's Exhibit 277. This exhibit and the testimony relating thereto is included by Canadian hereinafter and is adopted by Colorado Interstate. The costs there shown for the years 1939 to 1947 inclusive are as follows (Statement 1):

Year	Production	Gathering	Transmission	Total
(1)	(2)	(3)	(4)	(5)
1939	\$ 399,115	\$ 85,430	\$ 566,534	\$1,051,079
1940	461,301	99,940	693,264	1,254,505
1941	485,734	105,900	709,237	1,300,871
1942	454,798	100,578	714,040	1,269,416
1943	453,881	101,618	771,254	1,326,753
1944	456,048	102,175	826,520	1,384,743
1945	457,472	104,682	854,009	1,416,163
1946	536,437	128,653	880,991	1,546,081
1947	1,201,815	378,896	909,202	2,489,913

As stated in the caption, the cost of gas in this exhibit is computed on the assumption that the supply of and market for gas will extend beyond the project term, that is, beyond 1948. In the cost, there is included amortization and depreciation spread through, so to speak, to the end of 1956. Such year was used for this purpose because other witnesses for the company estimated that the economic life of the field would cease by the end of 1956. The cost above stated accordingly reflects annual depreciation and amortization charges based on a life extending through 1956, however, the total cost of gas is estimated for the purpose of this case only through 1947.

Q. What is your purpose in the presentation of this first exhibit No. 276.

A. The purpose is to show cost of gas delivered to the Colorado Interstate Gas Company at Clayton Junction, New Mexico, on the regulatory rate basis as defined.

Q. You proceeded with the discussion of your exhibit on Page 3 where you referred in Paragraph 4 to the fact that the rate base used herein as of January 1, 1939 is the depreciated original cost as of December 31, 1938, shown by Exhibit 272.

A. Exhibits 272 and 273.

Q. Exhibits 272 and 273?

A. Yes.

Q. Those are the exhibits heretofore identified by Mr. Roberts?

A. That is correct.

Q. Now, then, you use the term "depreciated original cost." You are using that phrase in the same fashion as Mr. Roberts employed it; that is, applying the depreciation that is predicated upon per cent condition of the property and then relate it to dollars?

A. That is correct, the depleted and depreciated original cost as of December 31, 1938, as indicated in Mr. Robert's Exhibits 272 and 273.

Q. In employing that phrase in the sentence that Mr. Roberts employed, you of course don't relate that so-called accumulated depreciation to the depreciation that has heretofore been set up on the company's books?

A. No, sir.

Q. You begin with December 31, 1938 and set up, as you say in the next paragraph, Paragraph 5 of your Statement 3, a sinking fund method of depreciating?

A. The sinking fund method or the compound interest method of amortization.

Q. Amortization?

A. Yes, sir.

Q. That is entirely a new departure as far as the company's history is concerned?

A. That is correct. The company has not used the sinking fund method.

Q. Not in any time heretofore?

A. No, sir.

Q. In any of the properties?

A. No, sir.

Q. You are relating that as of the beginning, January 1, 1939, the setting up of the sinking fund?

A. That is correct, yes, sir. The date of it is January 1, 1939, beginning with the observed depreciated and depleted condition.

Q. Heretofore the company had set up a debt amortization plan beginning in 1928, hadn't it?

A. Yes, sir.

Q. And it had set up a depreciation plan in 1931?

A. That is correct.

Q. Had you also set up a different plan for depreciating short-life properties, or how were they treated?

A. They were usually handled on a 25 per cent basis.

Q. How had they been handled before?

A. On a 25 per cent basis.

Q. Now you come to January 1, 1939 and all of those previous methods have definitely been discarded for this new sinking fund plan you have here?

A. For the purpose of this exhibit here, all of the company's methods have been discarded.

Q. As a matter of fact, though, actually, this being presently March 24, 1941, there has been no sinking fund method put into effect by the company?

A. No, sir.

Q. Although this contemplates the setting up of such a plan as of January 1, 1939?

A. That is correct.

Q. Now, this new sinking fund method, that is going to be more or less an all-embrasive one excepting for short life property?

A. That is correct.

Q. It supersedes your previous debt amortization plan as well as any other method of accumulating any reserve for those purposes?

A. This is the alternative plan based entirely upon the regulatory or rate basis using the compound interest calculation for amortization.

Q. And going back to that method of computing depre-

ciation as set up on the company's books in 1931, that was set up on a straight line basis?

A. That was a 25 year life, strictly.

Q. And had been so viewed?

A. Yes, sir.

Q. But you are not in accord with the idea of the company depleting its properties on a straight line basis?

A. Oh, yes, for an accounting basis, I think the straight line is all right, but for the purpose of rate making, I think the compound interest method is much better.

Q. You think the compound interest method is much better?

A. Yes, sir.

Q. Are you in accord with the definition of the sinking fund method as Mr. Paton sets it up in his Accountants Handbook where he says: "This method involves the systematic accumulation, in the hands of a trustee or otherwise, of a fund which will amount to the total of the depreciation in any case by the estimated date of retirement, and the interest rate involved, instead of being the estimated earning power of the asset being depreciated, or of the general business assets of the concern involved, is the contractual rate actually secured on the fund."?

A. That is what the premise of this exhibit is.

Q. That is the method you advocate in this exhibit?

A. Yes, sir.

Q. But as you just stated, although it contemplates such a method being set up as of January 1, 1939, it has not in fact been set up by the company as of this time?

A. It has not.

Q. So it is being advocated by you merely for the purpose of this exhibit?

A. Merely for the purpose of this exhibit and for the purpose of this hearing, this proceeding.

Q. As far as you know, the company doesn't in fact contemplate setting up such a sinking fund method on its books?

A. I don't think it does.

Q. How do you define the straight line method of depreciation?

A. The straight line method ordinarily is an estimated life of so many years divided into one, which would give a rate.

Q. And that is the method that the Commission's accountants have presented in this proceeding?

A. Yes, they have used an estimated life, a service life.

Q. What is your objection to the use of that method?

A. My chief objection to the use of that method is it is always a diminishing rate base.

Q. It is always a diminishing rate base?

A. That is correct.

Q. That is not so good, is it?

A. Not to my knowledge—not to my way of thinking, no, sir.

Q. But you would let a plant be in existence eleven years and then just by the process of inspection of its physical properties find a per cent condition and relate that per cent condition to what you would determine accumulated depreciation as of that date and start from there?

A. I think that is quite proper, yes, sir, for rate purposes.

Q. For rate purposes?

A. Yes, sir.

Q. Disregarding that entire 11-year period in so far as the life of the property is concerned?

A. That is correct.

Q. Supposing this rate proceeding, instead of having taken place at this time had not in fact taken place until 1953 or 1954. You would still proceed in the same fashion, setting up the same methods as you have here?

A. That is right.

Q. Even though you also at that time would have the same information available to you as made available by your geologists in this proceeding, namely, that in their opinion from their estimates of the life of the Canadian River Gas producing acreage or its acreage in the Panhandle field would expire or come to an end in 1956?

A. That would be based primarily on what their judgment was or what their calculations resulted in as far as the depletion of the field as a whole was concerned.

Q. Let's assume just for the sake of the problem that at that time that would have been their opinion, or would be their opinion, and 1956 was just ended and this rate proceeding, instead of taking place now would have taken place in 1954. I take it then you would set up a sinking fund method of depreciation and amortization of the properties

that would require the amortization of the entire plant during a period of—well, it might be a year and a half or less than that.

A. Well, the principle would be the same but I doubt very much if the companies would allow themselves to get into a position whereby they only had two remaining years to recoup the value of a property at a given date.

Q. You just now stated that you didn't contemplate having the company set up on its books a sinking fund method of depreciating and amortizing properties but that this was computed and set up merely for the purpose of this exhibit, so they would continue on as they have now until 1954, saying there hadn't been a rate proceeding in the interim?

A. They would continue the same way as they are doing now, and as far as this exhibit is concerned, it would be set up on the same basis, but I doubt very much whether the company would recover it in a two-year period. As a matter of fact, I don't think they could.

Q. They couldn't?

A. I think not.

Q. So they would probably reach 1955 or 1956 and if the property were maintained in the same high level it is now it might still be in 93 per cent condition?

A. That is correct, and the company would in that last two-year period, if the field went out in such a short period of time, be faced with a loss of that property.

Q. They would?

A. Yes, sir.

Q. In your opinion it isn't the proper way to spread your depreciation and amortization over the entire life of the properties ratably from 1928 to the time you say that the field life would come to an end?

A. No, this particular exhibit here, Exhibit No. 272, begins with January 1, 1939, as of that date.

Q. You would proceed in the same fashion whether this proceeding had taken place at any late year, starting right from scratch?

A. In dealing with extremes where we have a narrow margin of two years, as you mentioned before, the company would have to sustain the loss.

Q. Suppose you would have this in 1945 instead of now, you would set it up on the same plan?

A. On the same plan.

Q. Having there instead of 4.36—

A. I would get a little higher figure.

Q. You would probably have some higher figure?

A. It would be around 6.

Q. Although from the estimates made, the useful life of these properties would be the period from 1928 to 1956, you wouldn't give any consideration to that period of life of the properties that had gone before but would begin from whatever period there would be a rate proceeding?

A. We would do that in the case—when we started with a depreciated and depleted condition as of December 31, 1938, we did give effect to the loss in service value and the depletion of the field as a whole and we would begin with the depreciated and depleted condition.

Q. But you only pay respect in so far as the depreciated condition of these properties are concerned, in so far as the per cent condition that you may find them?

A. That is the observed condition, yes, sir.

Q. And no other factor with reference to the service life has already expired?

A. We considered the factor of depletion; the amount of gas withdrawn.

Q. In so far as the depletion is concerned, you do?

A. Yes, sir.

Q. But that is only related to the leaseholds and the producing gas wells?

A. That is correct.

Q. You will proceed in that fashion with reference to those two items of property but you don't think it is correct to proceed in a similar fashion with respect to the other units of property?

A. No, sir, I don't, because the observed condition is our starting point in practically all of the rate proceedings set up on this particular basis.

Q. You wouldn't think of doing that to try to observe the performance of the gas well at any particular time?

A. I don't think the performance of a gas well; that is, as far as the depleted property is concerned, can be observed.

Q. That is your difficulty there?

A. That is the difficulty of the hole in the ground, the vertical hole, yes, sir.

Q. You have had considerable experience in connection with the operation of properties like those of Canadian River. What in your opinion would have been the condition of the Canadian River's main lines if there hadn't been a high maintenance taking place? If they hadn't been maintained at a pretty high rate of maintenance, what would have been the condition?

A. I don't know just what you mean. Do you mean a high cost of maintenance?

Q. No. What in your opinion would you have found as to the per cent condition of the property as of December 31, 1939 if there had been a lack of maintenance by the company?

A. Ordinarily, maintenance itself tends to keep up the service life of the property. Deferred maintenance has the reverse effect, as far as I know from my experience in the natural gas business.

Q. So if there hadn't been a good maintenance on those lines prior to December 31, 1938, you probably at that time wouldn't have had a 93 per cent condition?

A. Well, I don't know as you can relate the actual per cent condition against a particular form of maintenance. I think, as Mr. Roberts explained, that in many cases during inspection the number of pits were observed and it may have been due to the inspection itself that certain joints of pipe were removed. All of that was taken into consideration as to the per cent of observed condition.

Q. But, Mr. Lusk, if there had been no maintenance at all on these properties, certainly in the light of your experience you wouldn't say that they wouldn't have been in 93 per cent condition, the maintenance would have been in 93 per cent condition as of December 31, 1938?

A. No, and I think Mr. Roberts explained that when he said that it might be in some other per cent condition. They may have found a lower one.

Q. A lower one? It may not have been higher?

A. I beg your pardon, but I was talking about maintenance. It probably would have been lower.

Q. Lower?

A. Yes.

Q. As a matter of fact, that same situation would obtain with other units of property if there should have been an entire lack of maintenance?

A. If there was an entire lack of maintenance, the property would have been in a lower per cent condition.

Q. I believe the company's past history shows that they set up a debt amortization plan right at the beginning of the operations of these properties in 1928, doesn't it?

A. That is right. The mortgage indentures provided for uniform retirement.

Q. That is under the contract?

A. That is under the contract, yes, sir.

Q. As a good accounting matter, why didn't the company at that time set up a plan of amortizing its investment in those properties over the life of the property?

A. They saw fit to amortize the debt rather than the property.

Q. They did?

A. Yes, sir.

Q. In that fashion they would recover their debt much quicker, wouldn't they?

A. The debt is being liquidated under the terms of indenture.

Q. Would it be liquidated much quicker?

A. Yes.

Q. And ratably over a period of years?

A. 20 years.

Q. Under that plan that was set up by them to amortize that debt, they have already been able to recover over that period—it is 13 years now, isn't it? Or is it 12 years—that portion of the debt?

A. The debt the Canadian River Gas Company now is about 60 per cent retired; that is, the initial debt.

Q. Through that method of amortizing it over that period of years?

A. That is correct.

Q. In the computation of the direct cost of gas that is included as a part of that cost, isn't it?

A. That is right. In the exhibits preceding these showing the cost of gas at contract, the Clayton method is used and provides for the amortization of not only the bonds but the subsequent notes plus interest.

Q. Now, then, you provide for a period of years ending—what is that date? Is 1956 the date of the life of the field?

A. Yes, sir.

Q. At that time you contemplate that the operations of these properties, gas producing and gathering, as far as Exhibit No. 276 is concerned, will cease?

A. That is correct. On Page 3 of the written statement, Mr. Hendee in his Exhibit No. 255 has testified that from the standpoint of major gas pipe line companies, the economic life of the field will be reached; that is, in 1956, and the commercial production of gas will cease by the end of that year.

Q. Now, in setting up your requirements of revenues—well, first of all, in Exhibit 276, as well as in the related exhibits following, I don't see where you have given any consideration at all to the net salvage value that the two exhibits—rather, the exhibits presented by your company as Exhibit 281 called for.

A. No, there is no consideration of salvage given in any of these exhibits.

Q. I see in Exhibit No. 281, the exhibit put on by the company, shows a net salvage value as of January 1, 1956 of \$198,384.69.

A. I haven't considered it.

Q. Why haven't you given it any consideration?

A. In the first place, I was dealing principally with the amount of property as of December 31, 1956, the end of that year. The property beginning on a rate basis is as of January 1, 1939. I did not consider the salvage, because in the first place I didn't have the salvage figure available; in the second place, for the purpose of this particular exhibit, I don't think the salvage plays an important part in it. It is only \$198,000 and that \$198,000 on the Canadian River Gas Company would not make any material difference in the cost of gas at Clayton.

Q. It would serve as a credit if you did utilize it, wouldn't it?

A. It would serve as a slight deduction, yes, sir. However, \$198,000 against the total property base of approximately \$14,000,000 is not a very large figure.

Q. Over that period of years there would be an additional charge of that total of \$198,384.69?

A. That is right.

Q. That does not now appear or is not reflected in your exhibit?

A. No, sir, it doesn't appear in my exhibit.

Q. Returning to Exhibit 276, I notice in Mr. Roberts' exhibit he does not depreciate either land or rights of way in Exhibit 272 and the related exhibits.

A. I don't think he does.

Q. If I recall correctly, he specifically stated that he did not depreciate lands in fee or rights of way.

A. That is correct, Mr. Roberts hasn't shown any accumulated depreciation or depletion of lands or rights of way.

Q. Yet you have included both land as well as rights of way in your amortization plan. Lands, as I have it, includes an item of \$3,656 and rights of way \$60,659. Why have you included them in your amortization plan?

A. Well, the company expects to recoup under the principle set forth in Exhibit 276 all of the cost, which includes lands and rights of way.

Q. That is true, but there is no depreciation accruing on either one of those items?

A. Not under this plan, no, sir.

Q. And Mr. Roberts doesn't contemplate that either one of those items is depreciable property?

A. That is correct.

Q. But you still, under your method of computing this Exhibit 276, included them in your amortization plan?

A. That is correct.

Q. Well, then, as you see it, the company hasn't been able to get any of its investment on that back between 1928 and 1939 on either one of the two items?

A. That is correct. Mr. Roberts' exhibit and this exhibit begins with January 1, 1939.

Q. You proceed in that fashion, although the rate has heretofore been set on debt amortization in the contract?

A. That is correct.

Q. Let's turn to Statement 12, Exhibit 276. That pertains to the working capital requirement on all gas, doesn't it?

A. That is correct.

Q. First of all, how did you determine the amount of working capital required for future years 1940-1947?

A. That was based upon the estimated operating expenses for the year 1940 in relation to Exhibit No. 192, and the averages were moved every year. It is set forth on a five-year moving average basis.

Q. Then in addition to estimating the total, you got an estimate here by dividing the amount required between the production, gathering, and transmission of compressing systems?

A. That is correct.

Q. How did you arrive at that allocation?

A. That allocation was arrived at on the basis of Exhibit No. 192 which provides three component parts of working capital, material and supplies, one-eighth of the annual operating expenses, and a nominal amount for cash in local banks. The materials and supplies were segregated on a property basis; the annual operating expenses were segregated on an expense basis and the cash required, the nominal amount of cash required, was also segregated on an expense basis.

Q. Then you assumed an increase of your cash balance of about 50 per cent over a period of years, and through 1946, don't you?

A. Well, we assume here in 1940 a total working capital required as computed by the basis I explained of \$205,000, and in 1947 it was \$275,000.

Q. How do you assume a 50 per cent increase in your materials and supplies during that period of years? Is that in Line 1 of your computation on—what statement in your Exhibit 276 is comparable with Statement 10, Exhibit No. 277? I see your Statement 10 in Exhibit 276. Let's turn to that.

A. That isn't working capital, Mr. Lange.

Q. I know, but I want to refer to that statement.

A. All right.

Q. That sets forth the property investment as of January 1, 1939 and right on through 1948, doesn't it?

A. Yes, sir.

Q. Now, that shows an increase over that period of years of approximately 20 per cent, doesn't it?

A. The total property under Column 8, Statement 10, Exhibit 276, shows an increase of about \$2,500,000 which is about 20 per cent.

Q. About 20 per cent?

A. Yes, sir.

Q. Why are you providing for an increase of approximately 50 per cent in your working capital for materials and supplies during that year when your property investment as shown herein increases only 20 per cent during that period?

A. Well, as far as the working capital statement is concerned, that is not based primarily on materials and supplies, but on the increased operating expenses to a great extent.

Q. That is, to some extent but not entirely?

A. Well, the weighting of the materials and supplies increase is based upon the property increase, and the increase in operating expense would take up the difference between 20 per cent and 50 per cent, or 25 per cent and 50 per cent.

Q. So that is a judgment figure that probably increases requirements in working capital?

A. It is a computed figure based upon previous exhibits.

Q. And the allocation of it is estimated?

A. It is based on—as I said before, part of it is based upon a property division and part of it on an expense division.

Q. Going back again to Statement 10, Exhibit 276, the property investment as of January 1, 1939, the items under production system, Column 3, are taken from a previous exhibit heretofore prepared by you?

A. Yes, sir, the additions as indicated by Note B, Statement 10, property additions in 1940 and thereafter, as shown in Statement No. 3, Exhibit 184, and Statement 3, Exhibit 133.

Q. Under the production system, that first item of \$5,825,683 in 1939 includes the total of those leaseholds that have been set up on the books heretofore, including what had previously been under that Appreciation account?

A. That is correct, with the depletion as indicated in Mr. Roberts' Exhibits 272 and 273.

Q. Going down to Line 17, replacement reserves, autos and trucks, drilling and cleaning equipment, now, those items of property are what you would term short-life property?

A. Yes, sir.

Q. The depreciation, there is on the straight line basis as distinguished from your sinking fund method applicable to the other method?

A. That is correct.

Q. Going back to Statement 2, Columns 8, 9 and 10, are those set up here in lieu of your debt amortization provision in your contract?

A. That is correct, replacement reserve, provisions for depreciation and depletion and an 8 per cent return in lieu of the present method of interest and the amortization of debt.

Q. Now, Column 11, Statement 2, that is where you set up the Federal taxes?

A. Yes, sir.

Q. How do you arrive at this almost 100 per cent increase in 1947 of \$414,184 as against \$207,159 in 1946?

A. In 1947 you will notice that over in Column 2, the column there, gas royalties have been reduced almost 50 per cent due to the elimination of the Chicago line gas, principally. As explained in the other operating statements, or the other statements and exhibits, the total operating expenses under Column 7 have been reduced from \$710,777 to \$493,830. The taxes have also been reduced under Column 6.

Now, any reduction in operating expenses and in operating taxes, all of which are allowable deductions and under the present statutory regulations for income tax purposes, naturally tend to increase income taxes.

Q. That, of course, assumes your revenues would be the same as you have heretofore projected?

A. That assumes that the company would still be entitled to enjoy an 8 per cent return on the value of its property.

Q. And this Column 6 where you have taxes set up and a reduction in 1947, you mean by that a reduction in severance taxes?

A. That is principally reduction in severance taxes.

Q. This exhibit basically is intended to present these figures as you computed them, disregarding in its entirety the provisions of the contract?

A. That is correct. This is an alternative method of the contract for rate making purposes.

Q. Let's turn to Statement 11, Exhibit 276, Mr. Lusk. Now, the first item in Column 2, \$5,825,683, that is the depreciated original cost base as you have it in your production system for January 1, 1939?

A. That is correct; that comes from Statement 10.

Q. Well, what do you add to that after the year 1939?

A. Well, the property additions in 1940 and thereafter are taken from Exhibits 184 and 133. Those exhibits are the production and gathering system and the transmission system, including the Bivins compressing station from the intake side of Bivins going north.

Q. That's all that is added every year to the figures in Column 2?

A. Well, it is only the production system in Column 2.

Q. In so far as production system properties are concerned?

A. They do appear on one exhibit.

Q. And in subsequent years the items appearing in Column 2 don't reflect any deductions for depreciation during any of those years?

A. No, sir.

Q. You are just adding to them every year whatever additions have been made to the property?

A. That's correct.

Q. And do those additions also include replacements?

A. No, sir.

Q. They don't?

A. No, sir, only as shown in Exhibit 184, the amounts shown in Statement No. 10 and Statement No. 11 for the production and gathering system, taken from Exhibit 184.

Q. And they contemplate only whatever additions have been made to the properties over and above any replacements?

A. That is correct, yes, sir.

Q. And you proceed in the same fashion with Statement 11 of the exhibit with reference to the gathering system properties and also with reference to the transmission and compressing properties?

A. That is correct. The additions to the gathering system are taken from Exhibit 184 and additions to the transmission and compressing system are taken from Exhibit 133.

Q. And in each instance, of course, the items; that is, under Column 6 for gathering and Column 10 for transmission and compressing properties, represents the depreciated base as of January 1, 1939?

A. That is correct, as taken from Mr. Roberts' Exhibits 272 and 273.

Q. And for subsequent years in each of those columns the dollar additions represent property additions?

A. And estimated property additions at a gross figure, yes, sir.

Q. And then the only other element in computing the rate base in each instance for the three systems is the average working capital that you have projected under Columns 3, 7 and 11?

A. That is correct.

The Trial Examiner: We will stand in recess for five minutes.

(At this point a short recess was taken, after which proceedings were resumed as follows:)

The Trial Examiner: The hearing will be in order.

By Mr. Lange:

Q. Mr. Lusk, turn to Exhibit 276, Statement No. 6, required revenues from all gas. I notice in Column 10 there you have the amount required for the 8 per cent return for each year.

A. Yes, sir.

Q. Now, in the computation of your required taxes, that is set up on Statement 13, isn't it?

A. Which tax?

Q. Capital stock tax and income tax.

A. That is set up on Statement 13, yes, sir.

Q. Now, in Column 10 of Statement 6, I see you have for 1940 the amount required for an 8 per cent return, being \$909,027.

A. That's correct.

Q. Now, how do you determine the amount attributable to the Denver line as distinguished from the amount for those taxes attributable to the Chicago line and other sales?

A. Well, in Exhibit 276 the amount of gas delivered to Chicago has been excluded in its entirety. The allocations for property and all of the operating expenses begin with Statement 2 for production system, and an 8 per cent return shown under Column 13, Statement 2. The percentages arrived at are taken from Statement No. 9 in Exhibit 164 which excludes all of the Chicago gas from both production and gathering.

In the transmission system the Chicago system doesn't enter into any of Canadian River Gas Company's transmission system.

Q. But in computing your percentages in each of your—well, Statements 2, 3 and 4, the columns 13, 10 and 14, respectively, as to the amount of return required, wouldn't that when applicable to the total required show that the income tax returns applicable to the Denver line are much higher than what they should be?

A. Well, the income tax applicable to the Denver line is a computed figure based on the 8 per cent return of \$643,088 as shown in Column 14, Statement 2, and also in Column 11 of Statement 3 and Column 15 of Statement 4.

The additions, or any amount that is applicable to the Chicago line, is excluded from all of these computations.

Q. What about the amounts applicable to Amarillo?

A. They are included in the totals. That is, the Amarillo Oil Company and the deliveries along the line—

Q. Yes.

A. They are excluded in the percentage for the Amarillo Oil Company gathering and Transmission under the B contract is excluded, because they are well mouth delivery.

Q. Now, going back to that Statement 6 of the exhibit in Column 10 for the year 1940, doesn't that \$909,027, that's the total amount that you say is required for the obtaining of the 8 per cent return?

A. That's correct. That comes from Statement No. 11.

Q. Well, now, that's applicable to all three systems, isn't it?

A. That's correct, production, gathering and transmission.

Q. That necessarily applies to all details, doesn't it?

A. This is all gas delivered at Clayton, yes, sir.

Q. Now, does this \$909,027 on Statement 6 refer to the total amount required with reference to all properties of the company?

A. All properties of the company devoted to delivery of gas at Clayton Junction, New Mexico for the Colorado Interstate Gas Company.

Q. Yes. Now, I notice also in the computation of your Federal income and capital stock taxes, Statement 13, Column 4, on the basis of what law are you computing those taxes for the years 1940 through 1947?

A. In Column 4?

Q. Yes.

A. The excess profits—that is on the basis of the 1940 excess profits law.

Q. You don't take into consideration the subsequent amendment to the act which would have the effect of reducing that excess profit?

A. Providing the last two years were higher than the first two years of the four.

Q. Providing the last two years were higher than the first two?

A. That is correct.

Q. That is your interpretation of the applicable provision only?

A. The amendments of the 1940 excess profits law which became effective about the middle of March of this year allows companies subject to excess profits tax to compute their excess profits tax allowable base either by the average four-year method or the last two years, whichever produces the largest amount of allowable in order to effect the smaller amount of tax.

Q. And in the light of your interpretation, then, you say that that doesn't in any manner effect your computations in Column 4, Statement 13?

A. It might affect them slightly but I don't believe that the difference in the tax would amount to a great deal.

Q. It would have the effect of reducing them?

A. Reducing them slightly, yes, sir.

Q. Now, you stated previously in your testimony this morning with reference to the method that had been pursued by the company in amortizing its debt under the contract that that method was put into force and effect at the time of the commencement of operation in 1928, wasn't it—the amortization plan?

A. The amortization of the debt of the Canadian River Gas Company did not begin until about 1930, as I remember, under the terms of the indenture.

Q. Under the terms of the indenture?

A. That's right.

Q. And you also stated the approximate amount that had been retired on that debt under that plan, up through 1938, didn't you?

A. Oh, when I mentioned the 60 per cent I was thinking of the present date.

Q. The present date?

A. Yes.

Q. That is as of now?

A. Yes.

Q. Rather, or say as of December 1, 1940? Or what particular time did you have in mind?

A. I think I have a 1939 statement here which I can read right off.

Q. Yes.

A. "The amount of first mortgage debt outstanding as of December 31, 1939 was \$5,057,000.

Mr. Dougherty: That is Canadian River?

The Witness: Canadian River Gas Company, and the initial debt of the Canadian River Gas Company of first mortgage bonds was \$11,000,000. It's about 55 per cent retired as of December 31, 1939.

By Mr. Lange:

Q. And that was over a period of how many years?

A. As I recall, the first amortization of debt began in 1929 or 1930.

Q. Now, you stated this morning in connection with the question I asked you as to what would be the situation in the event this proceeding—this present proceeding hadn't taken place now but might probably have taken place in 1954 or thereabouts, that if such were the case the company within a short period of a year or two years would have to suffer that loss in difference in value or difference in the amount of dollars that they hadn't recouped.

A. That's correct, theoretically they would suffer a loss.

Q. That would be theoretical because if the hearing was not had they would very likely continue to proceed in the fashion that they have heretofore proceeded up to now.

A. That is correct. It is a difference of opinion between a regulatory rate making basis and what actually occurred from an accounting standpoint as actually stated on the books.

Q. So when you made a statement as to the company sustaining a loss, that is theoretically?

A. That's right, as set forth in Exhibit 276 for rate making purposes.

Q. Because under the provisions of that contract there are sections that take care of the matter of the company being fully reimbursed for its expenditures and investments made during the period?

A. That is correct. Under the contract the Canadian River Gas Company's debt will be extinguished as of June 1, 1948.

Q. Now, on Page 4 of your Exhibit 276 you state that you set up your sinking fund basis on the strength of certain figures that appeared in Mr. Knapp's exhibit.

A. That is correct. That is to arrive at an interest rate of two or three-quarters per cent which was used in the computation of accruals to the sinking fund in this exhibit.

Q. And as you have previously stated, the company has of course not in fact set up any sinking fund method on its books at all.

A. No, the company does not set up a sinking fund on its books. It makes payments to a sinking fund for the extinguishment of its debt.

Q. Yes, but it doesn't proceed in the fashion as defined in the term, or as contemplated under the term "sinking fund method of depreciation"?

A. No, it doesn't follow that at all.

Q. Of course, any additions after 1939, plant additions to the company's property would be financed by these accumulations rather than by any funds set aside under this sinking fund method?

A. No. In this exhibit it is not contemplated to upset the sinking fund once it has been started. It continues as a sinking fund without using the fund itself for any additions to capital required.

Q. Well, just as a matter of practical application, do you think any company would set aside that amount of money every year at that rate of interest as you theoretically calculate under this sinking fund method?

A. Well, any company that is setting aside an amortization reserve under the sinking fund method at the present rate of 2-3/4 per cent, I think would be perfectly justified in keeping their fund intact without disturbing it in that way of making withdrawals from it for property additions.

Q. They would be perfectly justified in doing it but in your opinion as a practical matter, do you think the Canadian River Gas Company would ever contemplate doing that in practice?

A. If the Canadian River Gas Company were forced into it, I think they would.

Q. Well, you say if they were forced into it, but that appears very improbable that they would proceed in setting up a method contemplating the recovery of only that small amount of interest, doesn't it?

A. Well, as far as the recovery of a small amount of interest is concerned, of $2\frac{3}{4}$ per cent, I think that the Canadian River Gas Company and the Colorado Interstate Gas Company also in order to protect themselves against loss and risk, they would be forced to invest in securities, either the triple A as defined by Moody or United States Treasury bonds, the average yield of which is $2\frac{3}{4}$ per cent.

Q. But as you say, they haven't in fact done that, and so far as you know it is not contemplated that they are going to do it.

A. I don't think they will, no, sir.

Q. Do you really think as an accountant that the Canadian River Gas Company would put money in such a fund when they could be earning 8 per cent interest on the rate base?

A. Well, as far as the Canadian River Gas Company is concerned for the purposes of this proceeding and the Colorado Interstate Gas Company, neither property is an expanding or a growing property, so they can't reinvest the sinking fund in their own securities—or in their own properties, I should have said, not securities.

Q. Well, there is a growth over that period of years as shown in Statement 10 of your exhibit.

A. That is quite right. These are just as explained in previous exhibits for well drilling and for the additional lines or the new wells. As far as expanding the property itself is concerned, no.

Q. Well, of course, that is a relative term, but there is an increase in the company's investment of some 20 per cent over that period of ten years.

A. That's correct. It increases about two million, five hundred thousand dollars in ten years. That's \$250,000 a year average.

Q. And if they could earn 8 per cent on that money or any portion of it, it certainly wouldn't comport with good operating management to not get that return if it could.

A. Well, that—under the principle established in this exhibit we have contemplated keeping the fund itself intact at the 2-3/4 per cent rate.

Mr. Lange: I believe that is all on this exhibit.

Mr. Dougherty: Mr. Lusk, I think on Statement 10 there is a blank space at the bottom where there is a reference to other exhibits to be put in. That is Statement 10, Exhibit 276.

The Witness: That's "Accumulated Depreciation and Depletion" shown in Exhibits Nos. 272 and 273.

Mr. Lange: That's Statement 10, Mr. Lusk?

The Witness: Yes.

Mr. Dougherty: Then I think the same thing would be true on Statement 10 of Exhibit 277, would it not?

The Witness: The accumulated depreciation and depletion shown in Exhibits Nos. 274 and 275.

Mr. Dougherty: I have no redirect on those.

By Mr. Lange:

Q. Turn to your Exhibit 277, Mr. Lusk.

A. Yes, sir.

Q. That exhibit consists, or confines itself to the treatment of assumed resale gas and assumed resale gas operations alone as distinguished from all gas.

A. That's correct, yes, sir.

Q. Now, turning to the Statement No. 2 of the exhibit, Column 3, I note that your rentals on unoperated leases, you have that entire amount attributable to resale as well as you have to all sales, haven't you?

A. That's correct, yes, sir.

Q. And under gas expense you have practically all of that attributable to resale, haven't you?

A. That's correct. All of the—in Columns 2, 3, 4, 5 and 13, all of those amounts are taken from Exhibit No. 167.

Mr. Dougherty: What statement are you reading from?

The Witness: Statement 2, Exhibit 277.

Mr. Dougherty: Well, Mr. Lusk, all of those items shown in Items 2, 3 and 4, and subsequently, are totals.

The Witness: For resale gas alone.

Mr. Dougherty: But you applied your percentage in Column 2 to all of those totals?

The Witness: I mentioned that 2, 3, 4, 5, and 13, in Exhibit 267.

By Mr. Lange:

Q. And then how do you arrive at that percentage that you apply in Column 13?

A. That is shown on Statement 9 of Exhibit 167.

Q. Will you proceed in the same fashion with reference to the treatment of the items and the percentage on Statement 3 of the exhibit?

A. Yes, sir. That is the same total gathering operation for resale gas alone, including 8 per cent return on depreciated original cost base, Column 10, and the per cent as shown on Statement 9, Exhibit No. 167.

Q. Now, Statement 4 of the exhibit, do you have under "Gasoline Expense" how much of that is assigned to resale gas only for the year 1939?

A. This is all of the gasoline operation and the resale gas alone percentage under the transmission costs as shown under Column 14 which is also taken from Exhibit 167, Statement 9.

Q. Now, under Column 7 of that same Statement 4, your revenue gasoline plant attributable to resale gas alone, how do you arrive at that per cent?

A. That is the total gasoline plant revenue taken from Statement 8 attached and only applies to the Bivins gasoline plant. The gasoline plant revenues shown on Statement 8 are taken from Exhibit 167, Statement 4.

Q. And your replacement reserve, Column 9, Statement 4?

A. That is shown on Column 10 attached.

Q. In that instance, again it is the same as on all gas?

A. Yes, sir, all of these statements, 2, 3, and 4, are total operation, and the percentages in Column 14 are applied

Q. I notice in your treatment of lands in fee and rights of way—referring to Statement 10, do I understand you proceeded in the same fashion in this exhibit as you did in Exhibit 276? You included both lands in fee as well as rights of way in your amortization plan?

A. That is correct.

Q. Although Mr. Roberts did not in computing his items of depreciable property include either one of those as items of depreciable property?

A. That is correct, Mr. Roberts in his Exhibits 274 and 275 does not depreciate or set up any accumulated depreciation for either lands or rights of way.

Q. Of course, in the property investment item on Statement 10, Column 3, your production system property, there has been no allocation made as to leasehold property between all gas and resale gas?

A. No, sir. In Exhibits 134 and 193 there has been no allocation of the value of the leaseholds on the premise of Mr. Watson's Exhibit No. 121 in which he states that he would need all of the leases even if the company only enjoyed resale gas alone.

Q. But if you had a resale system of gas alone and not the all sale gas system operating, it is very probable that there would be a different volume of withdrawals as well as rates of withdrawal of gas in the field?

A. That is possible.

Q. If there were different volumes of withdrawals as well as a different rate of withdrawal, that would have a definite effect upon the life of the field, the producing life of the field? As you would draw more gas from the well it would be apt to shorten its life, and if you withdrew less gas you would be apt to lengthen the life of the well?

A. Well, in the particular case of Canadian River Gas Company, if we took the direct sale of gas as we determined it and reduced the total withdrawals, the difference in the depleted condition would be about one-half of one per cent as of January 1, 1939.

Q. As projected by you as to the contemplated requirements for those future years?

A. That is correct.

Q. But a difference in the actual withdrawals as well as in actual rate of withdrawals would have a very definite bearing upon the life of the field?

A. Well, it might. I don't know, as I would have to work that out as to just what the withdrawals were and the rates of the withdrawals.

Q. I am not viewing it from a geologist's standpoint, because you are not intending to get into that province.

A. No, sir.

Q. It is purely from an accounting standpoint, what an accountant would have to take into consideration?

A. That is possible, yes.

Q. And as I understand it, Mr. Lusk, in the preparation of this exhibit you have followed the same method in which you computed the items in Exhibit No. 276?

A. That is correct, the same principle applies.

Q. Excepting Exhibit 276 in so far as 1939 is concerned, represents figures reflecting actual operations as computed by you?

A. That is correct.

Q. But not any of the figures as set forth in Exhibit No. 277 do or could in fact reflect actual operations?

A. They are estimates applicable to resale gas alone.

(Vol. C, pp. 15387-15427.)

33. Colorado Interstate's Estimated Net Operating Earnings, After Income and Capital Stock Taxes and Payment for Gas at Regulated Price at Clayton Junction, of Colorado Interstate from the Denver Line, Determined on a Regulatory Basis and Under the Assumption that the Supply of and Markets for Gas Continue Beyond 1948, the End of the Project Term, and Until the End of 1956, Applicable to Depreciation, Amortization and a Return on the Original Cost, Less Accumulated Depreciation, and Amortization of Such Property, Including Contracts Plus Working Capital.

The company's Exhibit 285 by the witness Lusk (Vol. XCVII, p. 45010) brings together the data, most of which has already been abstracted, to present the facts stated in the caption.

The past and estimated future revenues from all gas sales have been abstracted under Title 15 supra and are the same as those shown in Exhibits 170 and 172.

The computed cost of gas on a regulatory basis is taken from Exhibit 276, which has been abstracted under Title 31 supra. All other operating expenses and taxes, less rentals received, are taken from Exhibit 135, which, together with other related exhibits, have been abstracted under Title 23 supra.

The expenses on account of income and capital stock and like taxes are computed in Statement 5, Exhibit 285, where he used the same methods abstracted under Title 29 supra. His computation of these taxes is further abstracted hereinafter.

Depreciation and amortization expenses are based: (a) for physical property on the original cost less the observed depreciation abstracted under Title 27 supra, and (b) for gas purchase and sales contracts on the unamortized book cost remaining on January 1, 1939, and are computed on a sinking fund basis. This subject is further abstracted hereinafter.

The rate base which he uses, and denominates "depreciated original cost rate base," is made up of the original cost of the properties as shown in Exhibit 67, which, together with other related exhibits, is abstracted under Title 18 supra. From this original cost he subtracts the accumulated depreciation to December 31, 1938, as shown in Exhibit 283 abstracted under Title 27 supra; he then adds the annual property additions required to the end of 1947, shown by Exhibit 133 also abstracted under Title 18 supra; he then adds the cost of the gas contracts, set forth in Exhibit 77 and abstracted under Title 19 supra, properly depleted or amortized. The gas purchase contract with Canadian is depleted with the exhaustion of the recoverable gas reserves and the book cost of the sales contracts is amortized over their respective lives. Finally he adds in working capital, as abstracted under Title 22 supra. These items all set forth in Statement No. 4 of Exhibit 285 result in his total rate base at January 1 of each of the years 1939 to 1947 as follows:

1939.....	\$12,938,453	1944.....	\$13,324,011
1940.....	12,973,949	1945.....	13,326,011
1941.....	13,092,685	1946.....	13,327,011
1942.....	13,100,685	1947.....	13,328,011
1943.....	13,323,011		

He then uses an 8% return, as set forth in Exhibits 73, 74, 92 and 93, all abstracted, under Title 28 supra. After giving effect to all the foregoing data and factors, he arrived at the following earning statement: (Statement 1, Exhibit 285).

Colorado Interstate Gas Company
Revenues on a Regulatory Rate Basis (A)
The Denver Pipe Line Sales of All Gas
Summary by parts, and Comparison with Actual, 1939 to 1947 Inclusive

Calendar Year	Revenues			Required Operating Revenues			Revenues Addition to Revenues Required for 8% Return
	All Gas Sales (B)	Operating Costs and All Taxes (C)	Depreciation and Amor- tization (D)	Required for 8% Return (E)	Total	(6)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(7)
1939	\$ 4,309,232	\$ 2,250,543	\$ 600,372	\$ 1,035,076	\$ 3,885,991	\$ 423,241	
1940	4,479,168	2,576,162	600,372	1,037,916	4,214,450	264,718	
1941	4,813,523	2,765,581	600,372	1,047,415	4,413,368	400,155	
1942	4,958,068	2,842,051	600,372	1,048,055	4,490,478	467,590	
1943	5,033,833	2,938,919	600,372	1,065,841	4,605,132	428,701	
1944	5,171,059	3,035,798	600,372	1,065,921	4,702,091	468,968	
1945	5,328,240	3,160,654	600,372	1,066,081	4,827,107	501,133	
1946	5,328,240	3,282,289	600,372	1,066,161	4,948,822	379,418	
1947	5,328,240	3,765,377	600,372	1,066,241	5,431,990	—103,750	
Totals for Period	\$14,749,603	\$26,617,374	\$ 5,403,348	\$ 9,498,707	\$41,519,429	\$ 3,230,174	

Notes: (A) Including an 8 per cent return on a depreciated original cost rate base as shown on Statement No. 4, and provision for depreciation and amortization by a sinking fund method with compound interest at a rate of 2 $\frac{3}{4}$ per cent per annum.

(B) From Exhibit No. 170, Statement No. 3, Column (5).

(C) From Statement No. 2 attached.

(D) From Statement No. 3 attached.

(E) From Statement No. 4 attached.

This earning statement follows the same general pattern of the earning or rate statements abstracted supra. The facts and evidence especially applicable to it are now dealt with.

As to depreciation and amortization, Lusk included the following statement: (Exhibit 285, p. 2; Vol. XCVII, p. 15011 et seq.)

"Depreciation and amortization are estimated by the sinking fund method as shown in Statement No. 3 attached, whereby the amounts invested in the property would be recovered by equal annual payments and accumulated compound interest at a rate of $2\frac{3}{4}$ per cent over the respective useful lives of the several items listed below:

(a) Those items whose lives extend through 1956:

1. The original cost of the depreciable gas property at December 31, 1938 (Exhibit No. 67) less the accumulated depreciation therein (Exhibit No. 283), plus the annual additions in 1939 up through 1947 at cost (Exhibit No. 133).

2. The recorded book amount and cost of the gas purchase contract with Canadian River Gas Company (Exhibit No. 77) depleted with the exhaustion of the recoverable gas reserves.

(b) Those items whose lives extend through June, 1948:

1. The recorded book amount and cost of the gas sales contracts with the Public Service Company of Colorado and Pueblo Gas and Fuel Company (Exhibit No. 77) less the accumulated amortization at December 31, 1938, pro rata with their expired lives.

2. The recorded book amount and cost of the gas sales contract with the City of Colorado Springs (Exhibit No. 77) less the accumulated amortization at December 31, 1938 pro rata with its expired life.

"Another witness (Mr. R. W. Hendee, Exhibit No. 255) has testified in respect to the gas supply of Colorado Interstate Gas Company that from the standpoint of the major gas pipe line companies the economic life of the Panhandle Field will be reached and the com-

mercial production of gas will cease by the end of 1956. Colorado Interstate's property and the cost of its gas purchase contract therefore should be fully amortized by that time.

"As noted in Exhibit No. 276 for the cost of all gas delivered at Clayton, $2\frac{3}{4}$ per cent is the average of the interest rates on AAA Utility Bonds and U. S. Treasury Bonds from 1937 to 1940, basic data for which was taken from Exhibit No. 225 by Mr. Knapp.

"An allowance has also been included herein for the annual accumulation of funds needed for the replacement of short lived property such as trucks and automobiles. Such provision has not been made in the sinking fund requirements for depreciation and amortization."

Statement 3, Exhibit 285, summarized his treatment of depreciation and amortization as follows:

Colorado Interstate Gas Company

Annual Provision for Depreciation, Amortization and Replacements on a Regulatory Rate Basis

The Denver Pipe Line Sales of All Gas

Depreciated Original Cost at January 1, 1939 Plus
Additions at Cost to January 1, 1948

Classification of Property	Total Amount to Be Re- covered (A)	Annual Requirements for Depreciation Amortization and Replacements	
		Per Cent of Total	Amount
(2)	(3)	(4)	(5)
Physical Property Subject to Depreciation	\$11,606,730	4.368% (B)	\$506,990
Property Subject to Amortization:			
Gas Purchase Contract.....	1,229,880	4.368 (B)	53,718
Gas Sales Contracts:			
Public Service Co. of Colo- rado and Pueblo Gas & Fuel Co.....	167,649	9.809 (C)	16,445
City of Colorado Springs.....	131,949	9.809 (C)	12,943
Total.....	\$ 1,529,398		\$ 83,106
Property Subject to Short Term Replacement:			
Automobiles and Trucks.....	36,883		10,276 (D)
Total.....	\$13,173,011		\$600,372

Notes: (A) As shown in total on Statement 4 attached.

(B) Based on life expiration in 1956.

(C) Based on life expiration in June, 1948.

(D) Annual accumulation based on average annual provision from 1934 to 1938.

On being cross-examined as to this Exhibit 285, as well as Exhibit 286 dealt with in the next title, and related exhibits of Canadian 276 and 277, he stated that the company itself had not set up depreciation or amortization as he had done in this exhibit but that such sinking fund provisions had been set up only in case regulation became effective and as an alternative plan which the company could then elect to follow (Vol. C, p. 15391).

The physical properties to be depreciated by sinking fund method were those in existence at December 31, 1938, plus the estimated additions (p. 15433), less, in the case of physical properties in existence, the observed depreciation existing at December 31, 1938, shown in Roberts Exhibit 283 (p. 15437). The period over which such properties are to be depreciated is an eighteen-year term; that is, the period January 1, 1939, to the end of 1956, on the assumption that the gas supply would last through that year (pp. 15436-37-38). The property to be depreciated as set forth in this exhibit, as well as the property in Exhibit 286 and the related exhibits 276 and 277 of Canadian, is the depreciated original cost as of December 31, 1938 (p. 15388); that is, its observed depreciated condition at that time (p. 15389), plus necessary additions to the property (p. 15396-97).

The cost of the gas purchase contract with Canadian is included in the property to be amortized without deduction or apportionment because of the Chicago Line. The Chicago Line came in long after that contract was made (p. 15434). The remaining cost of this contract (\$1,229,800) is amortized over an eighteen-year period to the end of 1956. This is on the assumption that the gas supply will last to that time and this contract is amortized over that period because, while it terminates on June 1, 1948, it has a renewal clause (p. 15429). But as to sales contracts with Public Service, Pueblo Gas and Fuel and the City of Colorado Springs, they must be amortized by June 1, 1948, when they expire. (Evidence as to the expiration of franchises from Denver to Public Service and from Pueblo to Pueblo Gas and Fuel and the requirements of the charter that there must be public elections to renew such franchises to such distributing companies has been abstracted under Titles 1, 3, 5 and 8 supra.). The gas sales contracts

with Public Service and Pueblo Gas and Fuel are being amortized over a twenty-year period ending June 1, 1948 (p. 15431) and the contract with Colorado Springs over a seventeen-year period beginning in 1931, with the inception of the contract and ending June 1, 1948. The remaining costs of these sales contracts must be amortized because the company paid for them as a condition of getting such business (pp. 15429-32).

In setting up the depreciation and amortization reserves on the sinking fund method, he assumed that the money set aside for that purpose would be kept intact and invested and not used to purchase additional plant (Vol. C, p. 15419), and he assumed that such money would draw interest, which would be compounded, at the rate of $2\frac{3}{4}\%$ over the respective useful lives of the items of property covered by the fund. He took the figure of $2\frac{3}{4}\%$ as being the return on non-speculative investments, arrived at by the Commission's witness Knapp in his Exhibit 225, Charts 3 and 4.

In setting up the depreciation reserve he did not give effect to salvage either in this exhibit or in Exhibit 286 or in Canadian's related Exhibits 276 and 277. Evidence of the amount of salvage was not available at the time he prepared this Exhibit 285 (p. 15402). Later, the company witnesses Taubman, Smith and Solow testified that for all of Colorado Interstate's property, the salvage would be only \$131,019.95. (This evidence is abstracted under Title 27 supra.) And in the case of Canadian the salvage would be only \$198,000 (Vol. C, p. 15402).

The Commission's engineer Lee M. Hill testified that at the end of the service lives assigned by him to the several items of property, the salvage would be "negligible" (Title 27 supra). Salvage would therefore not affect importantly the net results over the period extending through 1956 (p. 15402).

The Federal and state income taxes and the Federal excess profits and capital stock taxes were calculated on the assumption that present tax rates would continue in effect and the computations were made in the same manner as in the case of Exhibits 170 and 172, as amended, abstracted under Titles 29 and 30 supra.

Revenues from the sales to the Chicago Line are not reflected in these tax expenses applicable to the Denver Line and the Denver Line is not "carrying the entire tax for all operations." (pp. 15451-53).

Summing up this operating statement, Lusk said: (Exhibit 285, p. 4)

"It will be noted on Statement No. 1 that the revenues received, both actual and estimated as shown by Column (2) which include both resale and direct sale gas, are greater than the total required operating revenues as shown by Column (6). The additional earnings shown by Column (7), amounting to \$3,230,174 in the nine year period shown are entirely attributable to sales of direct sale gas."

The balance in this amount depends on the following assumptions:

First, that the present prices or rates for gas will continue and that the revenues of the company will hold up as shown in Exhibits 56 and 43 as abstracted under Title 15 supra.

Second, that the cost of gas as shown by Exhibit 276 as abstracted under Title 31 supra, will remain the same.

Third, that other operating expenses and operating taxes as shown by Exhibits 76, 135 and 135-A, as abstracted under Title 23 supra, will not increase over the estimates therein made.

Fourth, that the Federal and State income taxes and capital stock taxes based on present laws (1940) and as abstracted and computed herein, will not be increased (Vol. XLVIII, p. 6620).

Fifth, that the company can remain in business and be able to use its property beyond 1948 and until the end of 1956, and that, accordingly, annual depreciation and amortization expense will not have to be increased so as to retire or recover said property or the investment therein by 1948 instead of 1956.

Through its accountant, Kenneth L. Smith, in his exhibit 185 (Vol. LIV, page 7495, et seq.) the Commission offered a consolidation of figures for both Colorado Interstate and Canadian, after giving effect to the disallowances, adjustments and reclassifications made by its accountants with respect to the expenses, rate base, recomputed reserve for depreciation, and a reduced rate of return for each of said companies. After giving effect to all of these reductions and disallowances and adjustments by these accountants of the Commission, he shows an average return on the net investment, as computed by him for the period of 1928 to December 31, 1939, of 15.14%.

Respecting this exhibit he testified on cross-examination: He realized that the two companies were separate entities and each has contracts, which have been filed (Vol. LXXXVII, p. 13182) but that he did not follow contract terms (p. 13187). He did not take the net revenues actually received but operating revenue deductions were built up by Mr. McKinstry, another Commission accountant and him (p. 13187). He took income and surplus accounts bodily from the exhibits of the Commission accountants (p. 13188).

Although not subject to Commission jurisdiction, he included figures with respect to sales to Amarillo Oil Company.

"Q. So the consolidated operating revenue figure in Column 7 is not the gross income of Colorado Interstate Gas Company from the sale of gas from its pipe line and sale to Chicago, but represents some money that it does not receive?"

"A. That is correct. Of course, I think that following that situation through that it has been dealt with in Mr. Lyon's Exhibit." (p. 13190).

The depreciation figures are based on the service lives furnished by the Commission's engineer, Mr. Hill, and on the life of Canadian's acreage in the field testified to by the Commission's witness Mr. Hammer (p. 13198).

"Q. Now, on Sheet 24 you have deducted each year the accrued depreciation. Is there anything in the Federal Power Commission Code of Accounts to provide for doing that?"

"A. I think indirectly there is, yes.

"Q. But the Code actually doesn't provide for making that subtraction in showing your balance sheet as you have done here on Page 24?

"A. It doesn't spell it out but it doesn't prohibit it." (pp. 13200-01).

The results as set forth in his exhibit are not, what the "past history" or the "books" of the company show but what would be the case after all Commission deductions and disallowances and reaccounting for depreciation are given effect (pp. 13205-06).

34. Estimated Net Operating Earnings, After Income and Capital Stock Taxes and Payment for Gas at Regulated Price at Clayton Junction, of Colorado Interstate for an Assumed Denver Line for Resale Gas Only, Determined on a Regulatory Basis and Under the Assumption That the Supply of and Markets for Gas Continue Beyond 1948, the End of the Project Term, and Until the End of 1956, Applicable to Depreciation, Amortization and a Return on the Equivalent Original Cost, Less Accumulated Depreciation and Amortization of Such Property, Including Contracts, Plus Working Capital.

The company's Exhibit 286 by the witness Lusk (Vol. XCVII, p. 15016) brings together the evidence showing the facts stated in the caption. The methods employed are similar to those shown in Exhibit 285, last above abstracted. This exhibit is also analogous to some extent to Exhibit 172, as amended, abstracted under Title 30 supra.

The revenues from resale gas are as shown in Exhibits 43 and 56 abstracted under Title 15 supra and are the same as set forth in Exhibit 172, above abstracted under Title 30.

The cost of gas at Clayton Junction determined on a regulatory basis is taken from Exhibit 277 and this subject is abstracted under Title 32 supra.

The operating expenses and operating taxes applicable to a Denver Line for resale gas only (excluding income and

capital stock and like taxes) are as shown in Exhibit 136, less rentals received, as shown in Exhibit 172. Such operating expenses and taxes are abstracted under Title 24 supra.

Expenses on account of ~~depreciation~~ and amortization are estimated on a sinking fund basis and in the same general manner as set forth in Exhibit 285 abstracted next above. As the property to be depreciated, he took the equivalent original cost of the depreciable property as shown in Exhibit 134, plus the annual additions required 1939 to 1947 at cost as shown in Exhibit 134, abstracted under Title 20 supra, and he gave effect to the accumulated depreciation as of December 31, 1938, as shown in Exhibit 284, abstracted under Title 27 supra.

He included for working capital the amounts estimated in accordance with Exhibit 70, abstracted under Title 22 supra.

He computed state and Federal income and Federal capital stock and excess profits taxes applicable to resale gas alone in Statement 5 attached to this Exhibit 286 in the same manner as for all gas covered by Exhibit 285 and abstracted in the preceding title.

He used as a rate base the equivalent original cost at January 1 of each of the years shown as set forth in Exhibit 134, plus the annual additions required, 1939 to 1947, at cost, all abstracted under Title 20 supra. From this he subtracted the observed accumulated depreciation at December 31, 1938, as shown in Exhibit 284 abstracted under Title 27 supra. To this he added the cost of gas contracts depleted or amortized in the same manner as set forth in the preceding Title 33. He then added average working capital as abstracted in Title 22 supra. Altogether these items resulted in the "depreciated equivalent original cost rate base" set forth in Statement 4 to Exhibit 286, as follows:

1939	\$11,675,556	1944	\$12,616,146
1940	12,372,146	1945	12,617,146
1941	12,376,146	1946	12,618,146
1942	12,383,146	1947	12,619,146
1943	12,615,146		

He used an 8% return as set forth in Exhibits 73, 74, 92 and 93, abstracted under Title 28 supra, pointing out that such return was testified to by all witnesses regardless of whether the sales were of direct sale or resale gas.

Giving effect to all of this evidence and these factors, his Statement 1 attached to Exhibit 286 shows the following results:

Required Operating Revenues on a Regulatory Rate Basis (A) From "A Denver Pipe Line
for Resale Gas Alone"
Summary by Parts and Comparison with Actual, 1939 to 1947 Inclusive.
Required Operating Revenues

Calendar Year	Operating Costs and All Taxes (B)	Depreciation and Amor- tization (C)	Amount Required for 8% Return (D)	Total Required Operating Revenues (5)	Total Revenues Actual and Esti- mated (E)	Deficiency of Actual Revenues to Meet an 8% Return (7)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1939	\$ 1,762,920	\$ 569,583	\$ 934,044	\$ 3,266,547	\$ 2,938,383	\$ 328,164
1940	2,169,744	569,583	989,772	3,729,099	3,202,643	526,456
1941	2,228,845	569,583	990,092	3,788,520	3,424,257	364,263
1942	2,220,232	569,583	990,652	3,780,467	3,566,052	214,415
1943	2,322,598	569,583	1,009,212	3,901,393	3,693,267	208,126
1944	2,360,429	569,583	1,009,292	3,939,304	3,827,743	111,561
1945	2,415,931	569,583	1,009,372	3,994,886	3,982,174	12,712
1946	2,599,649	569,583	1,009,452	4,178,684	3,982,174	196,510
1947	3,563,976	569,583	1,009,532	5,143,091	3,982,174	1,160,917

Totals for

Period \$21,644,324 \$5,126,247 \$8,951,420 \$35,721,991 \$32,598,867 \$3,123,124

Notes: (A) Including an 8 per cent return on a depreciated equivalent original cost rate
base as shown on Statement No. 4 and provision for depreciation and amortiza-
tion by a sinking fund method with compound interest at a rate of 2 3/4 per cent
per annum.

(B) From Statement No. 2 attached.

(C) From Statement No. 3 attached.

(D) From Statement No. 4 attached.

(E) From Exhibit No. 172 Statement No. 3 Column 4.

In conclusion Lusk stated on page 4 of Exhibit 286:

"It will be noted on Statement No. 1 that the total domestic and industrial resale gas revenues received both actual and estimated as shown by Column (6) are less than the required operating revenues as shown by Column (5) and are therefore insufficient to meet an 8 per cent return on the depreciated equivalent cost rate base. The amount of deficiency in revenue from resale gas shown by Column (7) amounts to \$3,123,124 in the nine year period shown."

The deficit or deficiency in that amount is arrived at on the following assumptions:

First, that the present prices or rates for gas will continue and that the revenues of the company will hold up as shown in Exhibits 26 and 43 as abstracted under Title 15 supra.

Second, that the cost of gas as shown by Exhibit 277 as abstracted under Title 32 supra, will remain the same.

Third, that other operating expenses and operating taxes as shown by Exhibit 136, as abstracted under Title 24 supra, will not increase over the estimates therein made.

Fourth, that the Federal and state income taxes and capital stock taxes based on present laws (1940) and as abstracted and computed herein, will not be increased (Vol. XLVIII, p. 6620).

Fifth, that the company can remain in business and be able to use its property beyond 1948 and until the end of 1956, and that, accordingly, annual depreciation and amortization expense will not have to be increased so as to retire or recover said property or the investment therein by 1948 instead of 1956.

The witness was cross-examined about his Exhibit 286 in conjunction with Exhibit 285 and his statements as to the method of computing income taxes and requirements for depreciation and amortization made with respect to Exhibit 285 are in general applicable to his Exhibit 286 (Vol. C, p. 15438-43).

Further Testimony of the Company's Witness, Lusk.

Q. Mr. Lusk, you have also prepared Exhibits 285 and 287 relating to the operations of the Colorado Interstate Gas Company?

A. Yes, sir.

Q. Turn to Statement 3, Exhibit 285. I note that on Statement 3 you have an addition to your Item No. 1, physical property, also subsequent items. First of all, is item 2, gas purchase contract, which you included in your base. Is that correct?

A. Yes, sir.

Q. What gas purchase contract is that in Item 2?

A. That is the gas purchase contract between the Canadian River Gas Company and the Colorado Interstate Gas Company, dated January 3, 1928.

Q. You have included that in your regulatory rate base and applied what you assumed would be the annual requirement for the depreciation and amortization of that item?

A. Yes, sir.

Q. Well, is that the way the company has heretofore treated that purchase contract?

A. No, sir, the amount of the gas purchase contract as treated heretofore by the company—that was treated by writing it off over a 20-year period.

Q. Over a 20-year period?

A. Yes, sir.

Q. Beginning when?

A. June 1, 1928.

Q. June 1, 1928?

A. Yes, sir, and to terminate on June 1, 1948.

Q. I notice you have the Letter "B" affixed to this gas purchase contract "Based upon Life Expiring in 1956," is that correct?

A. That is correct.

Q. In that respect you are also departing from the method that the company is computing its amortization of that contract?

A. Yes, under the principle and premise that that contract will expire in 1948, but there is a renewal clause in that contract.

Q. After 1948?

A. After 1948.

Q. Well, then, the way you treat the item here, you contemplate that the Colorado Interstate Gas Company will avail itself of that option?

A. That is the premise here.

Q. And it will renew the contract?

A. Yes, sir.

Q. Now, the total amount of dollars in Column 3 for that item, \$1,229,800, is that a departure, too, from the company's treatment of the item?

A. That is right.

Q. What does the company set that up on?

A. On a 20-year life basis with approximately five per cent a year. For the purpose of Exhibit 285, gas purchase contract has been depleted in accordance with the gas withdrawn from the Panhandle field.

Q. According to the company's books, to what extent has it been depleting? What I meant was this: What was the amount of amortization up through 1938, 1939, or 1940?

A. I don't have the New York statement with me, but I believe it is around 55 per cent amortized.

Q. Approximately \$950,000 net as of this time?

A. That is correct. If it is 5 per cent amortized, the amortization would be \$1,100,000 and the remainder \$900,000.

Q. As of January 1, 1939, that is the date you set up in Statement 3, isn't it?

A. Yes, sir.

Q. You have also included in your regulatory rate basis in Statement 3, two other gas sales contracts, Items 3 and 4, haven't you?

A. The first one was a gas purchase contract.

Q. Yes. There are two gas sales contracts?

A. Yes.

Q. And you have treated those in connection with this exhibit as having a life expectancy until June 1948?

A. That is correct. On the sales contracts of the Public Service Company of Colorado and the Pueblo Gas & Fuel Company it is a 20-year life, and on Colorado Springs it is approximately 17 years. Both contracts expire as of June 1, 1948.

Q. Well, how has the company treated its items on its books heretofore?

A. They have been amortizing those on a straight life basis.

Q. Over what period of time?

A. Twenty years for the Public Service Company of Colorado and the Pueblo Gas and Fuel contract, and approximately 17 years for the city of Colorado Springs.

Q. Beginning as of what year in each instance?

A. The contracts with the Public Service Company of Colorado and the Pueblo Gas and Fuel Company began in 1928 and the City of Colorado Springs contract began in 1931 with the subsequent amendment and adjustment as of March 1932. All of that is shown in Exhibit No. 77.

Q. Now, then, if in June 1948—strike that.

Do either of those contracts have any renewal provisions in them?

A. Not that I know of.

Q. Then if in June 1948 substitute contracts would get into the picture there, you would have to upset your amortization plan, wouldn't you?

A. No.

Q. What would you do from that period on to 1956?

A. Well, if those contracts were renewed they would be new contracts.

Q. And you would begin a new amortization of them over that period to 1956?

A. If it cost the company anything, yes.

Q. What do you mean, cost the company anything? Supposing there is some stock issued for them?

A. The company would probably follow the same procedure.

Q. The company would probably follow the same procedure as they had heretofore?

A. Yes.

Q. Now, your automobiles and trucks, those are treated as short-life property on the straight line depreciation basis?

A. Yes, sir.

Q. So when you take this Statement 3 and view it in the light of what you say the annual requirements in so far as depreciation and amortization matters are concerned, you have a pretty diverse setup here, haven't you, on several bases?

A. No, there are only two bases as shown in Statement 3. The physical property subject to depletion and amorti-

zation and the gas purchase contract are the same and the application would be the same in both cases.

The two gas sale contracts are taken on a straight life basis.

Q. Of course, in addition to that, you begin with your physical property against which you have applied per cent condition as of December 31, 1938, disregarding any previous amortization of debt or depreciation that had been set aside and had accumulated?

A. That is correct.

Q. And Statement 3, Item 1, Physical Property, as I understand it, also includes land in fee as well as rights of way that are included in your amortization requirements?

A. That is correct, all of the property shown as of December 31, 1938, plus the estimated additions have been amortized as of 1956.

Q. In the same fashion you did in connection with Canadian River Gas Company's property in Exhibit 276?

A. Yes, sir, the same principle applies.

Q. Returning again to this Item 2, Statement 3, that—strike that.

Statement 3 is applicable to the Denver line sales of all gas?

A. Yes, sir.

Q. It is?

A. Yes, sir.

Q. Now, then, going down to Item 2, gas purchase contract, have you made any allocation of the \$1,229,800 or the item that the company has on its books for that amount to the Chicago or other sales points of the gas?

A. No, sir.

Q. Why not?

A. Because the Chicago line gas came in long after this contract was made.

Q. Well, the purchases are made under that contract, aren't they?

A. That is correct.

Q. It is applicable to the Chicago line?

A. That is correct.

Q. Well, if the purchases of gas are actually being made under that very same contract, don't you think that good

accounting practice would require that a proportionate part of that alleged contract cost be allocated to the Chicago sales?

A. Well, I think there may be another exhibit showing an apportionment of all these items.

Q. That isn't in here?

A. No, sir.

Q. So you haven't apportioned them in this exhibit?

A. No, sir, there hasn't been any apportionment of the Chicago line gas, as far as the gas purchase contract is concerned, in this exhibit.

Q. Now, you haven't, or have you, prepared an exhibit showing what the revenues from direct sales of gas would be?

A. No, sir.

Q. You haven't?

A. No, sir.

Q. So when you make this statement on Page 4 of your written statement that certain additional earnings shown in Column 7, Statement 1, amounting to \$3,230,174 in the 9-year period shown are entirely attributable to sales of direct sale gas, you are arriving at that amount purely on the basis of deduction, not directly?

A. That is correct, arrived at by deduction.

Q. By the process of deduction?

A. Yes, sir.

Q. Of course you haven't set up what a system devoting itself entirely to direct sale gas would produce?

A. No, sir. There have been no computations made of a hypothetical system for direct sale gas alone.

Q. So in arriving at this 3 million dollar item on Page 4, that is the result of deductions made by you?

A. Yes, sir.

Q. Now, on Statement 2 of your Exhibit 285, Mr. Lusk, Column 2, computed cost of all gas at Clayton, where is that taken from?

A. That comes from Exhibit 276, the one we just finished.

Q. Do you have Exhibit 276 there before you?

A. Yes.

Q. In Statement 1 of Exhibit 276—oh, yes, that Column 5 of Statement 1 of Exhibit 276?

A. Yes, sir, that is carried over to Column 2, Statement 2, Exhibit 285.

Q. Now, your Statement 1, Exhibit 285, Column 4, the depreciation and amortization requirements that you say will have to be set up for that period through 1947, are equal annual instalments computed where? On statement 3?

A. Computed from Statement 3—computed on Statement 3, yes, sir.

Q. And for physical property, the rate is 4.368 per cent?

A. Yes, sir.

Q. And if, of course, the properties to which this rate is made applicable on Statement No. 3 had been amortized over the entire life of those properties, you would have a rate of probably one-half of that, wouldn't you?

A. Well, I think instead of having an 18-year period, I would have the 28-year period.

Q. 28-year period, and those portions of the—or, rather, that percentage of the property that has heretofore been—that percentage of the investment that has heretofore been recouped is entirely disregarded in setting up this 4.368 per centage at this time, isn't that true?

A. That's correct. For the purposes of this exhibit as in the Canadian River Exhibits 276 and 277, we begin as of a date certain, January 1, 1939, for both companies.

Q. And now the loss in property value during the life of the property, what consideration have you given that in setting up this computation?

A. Well, in setting up this computation here, as is also the case with Canadian River Gas Company, beginning with a date certain, and merely adding the gross amount of additions. The depreciation as of January 1, 1939 is set forth in Mr. Roberts' exhibits.

Q. Well, now, do you know what the Uniform System of Accounts' definition gives for amortization, Definition No. 4, amortization? It says: "Amortization means the gradual extinguishment of an amount in an account by prorating such amount over a fixed period over the life of an asset or liability to which it applies, or over the period of which it is anticipated the benefit will be realized."

Do you agree with that definition?

A. The amount on Statement 1 of Column 4 includes compound interest calculation.

Q. That is true, but this says over the life of the asset

or the period during which it is anticipated the benefit will be realized.

A. Well, the life in this case for the purpose of this exhibit is assumed to be in 1956 based on the economic life of the field.

Q. Yes, but at the end—that is, at the end period, but what about the beginning period? This certainly doesn't contemplate in the use of the term "life of the asset" that you begin long after middle age and then just compute up to the end?

A. Well, that's quite right, but the Federal Code of Accounts now doesn't make—or the Federal Power Commission itself doesn't make any provision retroactive and the Code itself under the Federal Power Act became effective in 1938 and we are beginning as of January 1, 1939.

Q. Well, this became effective January 1, 1940, the Uniform System of Accounts.

A. There was a two-year allowance or a two-year period of grace for the natural gas companies to put their houses in order and attempt to follow the Federal Code of Accounts.

Q. Is this the putting of the house in order, then, in setting up this method of accruing your depreciation and amortization?

A. Well, that's our present principle here.

Q. Well, what is your opinion with reference to the definition in the Uniform System of Accounts from an accounting standpoint?

A. Well, I think as far as Exhibits 285 and 286 and 276 and 277 are concerned, why, the depreciation and amortization columns—that's what we are talking about—Definition No. 4 is the same thing. The gradual extinguishment of an amount by prorating over a fixed period. That's exactly what we are doing.

Q. Yes, but it doesn't stop there. It says the life of the asset or the period during which it is anticipated the benefit will be realized.

A. Well, the position taken in all of these statements is that the life begins as of January 1, 1939.

Q. Well, then, you don't consider that the company had gotten any benefit that accrued prior to that time at all?

A. Yes, it did receive and enjoy benefits prior to that time, but again I state that—

Q. To a very considerable extent, too, didn't they?

A. Yes, sir.

Q. All of which was paid out of the proceeds of the sales of gas the company made.

A. That's correct.

Q. Oh, I don't believe I asked you whether you agreed with the definition that the Uniform System of Accounts gives as to depreciation, Definition 14.

A. Yes, I think that is a fair definition.

Q. A fair definition? What do you mean by a fair definition, Mr. Lusk, now treating it purely from an accounting standpoint? Isn't that a very practical method to set up there or contemplated under that definition?

A. It is a practical method but I think that the phrase "means a loss in service value" should be elaborated upon.

Q. You think it should be elaborated upon?

A. Yes.

Q. There is one phrase that doesn't need any elaboration at all and that is—"depreciation means loss in service value"—you may have some elaboration there, but this part doesn't need any elaboration, does it—"not restored by current maintenance?" You are in accord with that, aren't you?

A. Yes, sir.

Q. Well, now, when you proceed to Definition 35, you find service value defined, don't you? Isn't that sufficiently elaborated on there to give you the meaning?

A. No, I think there should be a little more elaboration on the use of the term "service value."

Q. It says it means: "The difference between the original cost and the net salvage value of the gas plant."

You have an exhibit which you say is the net salvage value and all we have got to do is to determine what the original cost is, and of course you say you don't agree with Definition 29 of original cost of such property first devoted to a public service.

A. I think I have *dispose* of salvage *an* original cost.

Q. Doesn't that fully spell out any possible implication that may be in the picture there, either by inference or otherwise?

A. No, for this reason: Loss in service value can be construed in several ways. For instance—and Mr. Lee Hill

in his service value life has used the life of the field. The pipe lines themselves may be in 95 per cent physical condition when the field goes out. Now, what is the loss in depletion of a gas field?

Q. Well, if you compute your depreciation as the straight line method contemplates and take into consideration the service lives in computing that and also observe this portion of the definition on depreciation in the computation of your service lives, I think you won't get into that difficulty. Under Definition 14 of depreciation: "Among the causes to be given consideration are wear and tear, decay, action of the elements, inadequacy, obsolescence, changes in the art, changes in demand and requirements of public authorities; and in the case of natural gas companies the exhaustion of natural resources."

That is taking the factors into consideration that you were complaining about.

A. Well, service value here means over in Instruction 35, it means original cost, and net salvage value. Now, when did the net salvage value take place, at the time the natural gas field is exhausted? And then again the exhaustion of property of natural gas companies due to the exhaustion of natural resources, how can that be restored, by current maintenance?

Q. Well, if you set up your books on the straight line method and proceed in the fashion as contemplated under this Definition 14, I don't see—rather, I want to know from an accounting standpoint why you don't think that that would be practical.

A. I do. I think it is practical if those definitions are elaborated upon.

Q. Now, then—oh, yes, I forgot to ask you in connection with your use of the term "original cost," Statement 3 of Exhibit 285. I mean in so far as the words "original cost" there are concerned, you again disregarded the original cost as contemplated by the definition in the Uniform System of accounts.

A. Oh, no.

Q. As to cost to predecessor companies.

A. Not in the case of the Colorado Interstate Gas Company. There wasn't any predecessor in the Colorado Interstate.

Q. That's right. That was only applicable to the Canadian River Gas Company?

A. That's right.

Q. Well, then, going back to your Exhibit 276, I think that was Canadian River.

A. And 277.

Q. 276 and 277, where you there use the words "Depreciated original cost." The word "original" did not contemplate the original cost to predecessor companies?

A. That's quite right. It is the cost to the Canadian River Gas Company in Exhibits 276 and 277.

Q. That's right, but in your Statement 3 of Exhibit 285, Item 1, "Physical Property," the 11 million dollar item does include your reaccounting?

A. Yes.

(Vol. C, 15428-15443.)

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Cross Examination (Continued).

By Mr. Lange:

Q. Do you have Exhibit No. 286 before you, Mr. Lusk?

A. Have you finished with Exhibit 285?

Q. For the time being. You might keep it there in front of you, though.

A. All right.

Q. This exhibit confines itself to assumed revenues applicable to a resale gas plant alone of Colorado Interstate Gas Company.

A. Yes, sir.

Q. I notice that on Page 4 of the written statement, Exhibit 285, you say: "The additional earnings shown by Column 7, amounting to * * *" that is Statement 1, isn't it?

A. Statement 1, Column 7.

Q. " * * * amounting to \$3,230.174 in the 9-year period * * * "

A. Yes, sir.

Q. That, of course, is computed on an assumed basis of the plant devoting itself to resale gas alone and entirely disregarding all direct line sales, including Colorado Fuel & Iron sales?

A. Yes, sir, the exhibit itself is built up of operating

costs and taxes from another statement, another exhibit, and depreciation and amortization and the amount required for an 8 per cent return calculated on the property base of a 20-inch line from resale gas alone.

Q. Which is not in fact existent?

A. No, sir.

Q. Now, then, you say that your 8 per cent return that you utilized is predicated upon testimony that has been presented in this proceeding by Mr. Coffman, Mr. Gilman, Mr. Sands, and Mr. Bosworth, in several exhibits named on Page 3 of your written statement.

A. That is correct. All of those gentlemen have testified to an 8 per cent return.

Q. All of those gentlemen also testified with reference to a plant that sold all gas?

A. I believe that is correct, yes, sir.

Q. I don't believe any one of them contemplated predicated or fixing a rate of return for a company that did not sell all gas?

A. Their testimony was confined to the Colorado Interstate Gas Company on an 8 per cent return overall.

Q. That is right, overall.

A. I believe that is right.

Q. It wasn't in any fashion limited to a resale gas operation?

A. I don't think so, no, sir.

Q. If that is the case, the fact that you used their testimony in this respect is of course reading into it a limitation as to what kind of company they had in mind, isn't it? In other words, you are limiting it to the kind of company, a resale company, whereas they had no such limitation in mind in their testimony or exhibits?

A. I don't know what they had in mind. The 8 per cent return used in this exhibit—it is implied the 8 per cent would apply to all gas and resale gas alone. There is no distinction as far as these exhibits are concerned.

Q. In other words, you make it applicable to the all gas exhibit as well as to the resale gas exhibit without distinction?

A. That is correct.

A. And in both instances you predicated it upon the testimony and exhibits of those named witnesses?

A. Yes, sir.

Q. And in each instance, of course, not any of those witnesses in his testimony or in his exhibit made any such distinction between all gas and resale gas alone?

A. I am not sure but I don't believe they did.

Q. Note Statement 3, Exhibit 286. Under your property items that are included in your regulatory rate base, the gas purchased contract as well as the gas sales contract, being Items 2, 3, and 4, have not been allocated between resale gas and all gas, have they?

A. No, sir.

Q. Exhibit 285, Statement 3, shows the all gas items, and items 2, 3 and 4 are the same in both exhibits?

A. The same in both exhibits for all columns 3, 4 and 5.

Q. And the general property; that is, the property subject to short term replacement, such as automobiles and trucks, is the same?

A. That is the same, yes, sir.

Q. And in the construction of this exhibit you followed the same methods that you did in the construction of the previous exhibits that you identified; that is, of the series beginning with 276?

A. Yes, sir, the same applies to Exhibits Nos. 276, 277, 286, and 287.

Q. You mean—

A. I mean 285 and 286, not 286 and 287.

Q. And the principles applied by you on the two resale gas exhibits; that is, Exhibits 277 and 287, are predicated on the same basis as the previous resale exhibits you identified in this proceeding?

A. That is correct, yes, sir.

Q. Now, there is a matter I wanted to ask you about that is applicable to all of these exhibits. Please get your Exhibit 276, Mr. Lusk.

A. All right.

Q. Refer to Statement 6 of the exhibit. I didn't quite get it clear this morning—

A. You mean Statement 6?

Q. Statement 6, Exhibit 276, required revenues from all gas on a regulatory rate base. I didn't quite get clear this morning as to your method of computing income taxes. I just wanted to inquire at this time with reference to the

amount set up for 1940. Column 10 shows the amount required on an 8 per cent return for the year 1940 of \$909,027.

A. That is right.

Q. That is the starting point of your computation of the Federal income tax figures you have on Statement 13 of the exhibit?

A. Yes, that is the ground work for the Federal income tax computation on Statement 13.

Q. All right, now let's go to Statement 2 of the exhibit. That covers the production operations, doesn't it?

A. That is production, yes, sir.

Q. Under Column 10 you have the amount required for an 8 per cent return for 1940 of \$510,866.

A. That is for all of the production operations of the Canadian River.

Q. That is 45.69 per cent of the total in Column 13?

A. No, Column 13 is the percentage applied to Column 12. That is in order to arrive at the amount of production cost on an 8 per cent return for all of the gas delivered at Clayton.

Q. Now, Statement 3, Column 7, for the year 1940 shows a total of \$104,409, doesn't it?

A. Yes, sir.

Q. And the percentage applicable is 52.47, Column 10?

A. That is right, 52.47 of the gathering cost and 8 per cent return all gas delivered at Clayton Junction.

Q. Now, Statement 4, referring to transmission operations, Column 11, gives the figure of \$293,752 for the year 1940.

A. Yes, sir.

Q. And the percentage applicable is 97.76 per cent?

A. That is correct for transmission cost and 8 per cent return, all gas delivered at Clayton Junction.

Q. All right. Now, the total of the items which we have covered in Statements 2, 3 and 4, make up that total of \$909,027?

A. Yes, sir.

Q. And it was on the total of \$909,027 that you computed your Federal income tax on Statement 13 for the year 1940?

A. Yes, that was the basis.

Q. That is your normal tax of \$123,660 for 1940?

A. That is right.

Q. Well, now, if you apply the percentages applicable as we have just read them to each of the producing, gathering and transmission figures and add the resulting totals, you have a total that is almost 40 per cent less, don't you, upon which you would compute your income tax figures?

A. In order to compute the estimated amount of taxes to be paid and assessed, there were certain deductions made from the \$909,027 base.

Q. What deductions had to be made from that base?

A. For the year 1940 the base was \$909,027. In addition to that \$909,027 for tax purposes under the Internal Revenue Bureau's ruling we added back depreciation adjustments in accordance with the Internal Revenue's ruling in the amount of \$44,009. The interest earned on the sinking fund under this method was \$15,693 plus the income taxes of previous years which are non-allowable deductions. That made the gross \$1,043,968.

As deductions, the depletion adjustment was \$108,326, and the bond premiums \$12,486, and the interest paid on the present indebtedness Canadian River Gas Company bonds was \$407,905, making the total deductions \$528,771, coming down to a net taxable income of \$515,251.

Q. That is a net taxable income for all operations?

A. That is correct with the exception of the Chicago line gas.

Q. Does that exclude your Chicago line gas?

A. I was just thinking whether I said exclude or include. That includes the Chicago line gas.

Q. Includes it?

A. Yes, sir.

Q. Of course that figure is the one you used to start with to tabulate your 8 per cent return?

A. It is all profit, yes, sir.

Q. And that is how you arrived at the \$123,660?

A. Yes, sir.

Q. It was calculated applying the percentage of tax?

A. That is correct.

Q. It is on Statement 13?

A. That is right.

Q. It is in Column 3?

A. That is right.

Q. Well, then, the Denver line is carrying the entire tax for all operations?

A. No. On Statement 2, Column 11, after the required amount for an 8 per cent return the computed Federal tax, Column 12 was the total production system of operations and we take 45.69 per cent of that.

Q. Well, now, if you took those percentages against each producing, gathering, and transmission system, that would give you the following figures: \$233,415, which would be 45.69 per cent of the production figure?

A. I don't understand you.

Q. Take the production figure on Statement 2.

A. We will take 45.69, Column 11.

Q. Yes. What does that give you?

A. \$21,556.

Q. And you applied the applicable percentage to the gathering as well as to the transmission system property as you indicated?

A. Yes, sir. That would be 52.47 of \$22,497, Statement 3, or roughly, \$13,000.

Q. On Statement 4?

A. It would be 97.66 per cent of \$65,652, or roughly, \$63,000.

Q. Now take your Statement 13, Exhibit 276. In Column 4, your excess profits tax, did you make similar percentage allocations there?

A. Yes, this \$137,318, the total Federal taxes, is carried over to the earlier statement, being carried over to Statements 2, 3 and 4.

Q. Well, then, it would necessarily follow that you would assume that the excess profits tax applicable each year would arise on the same basis as allocation of cost of your normal income tax?

A. The excess profits tax is computed on the total amount of taxes under a normal rate. The excess profits tax itself is computed on the average net income for the past four years, 1936, 1937, 1938, 1939, and the excess over and above that is the basis for the excess profits tax.

Q. But the way it is allocated, necessarily shows it is predicated or based definitely on cost alone?

A. That is right.

Q. And it is not based in any manner on the relationship of selling price to cost?

A. That is right.

Q. You proceeded with the treatment of income tax computation and the allocation of it in the same manner in your other exhibit?

A. In Exhibit 277, yes, sir.

Q. Exhibit 277?

A. Yes, and in the Colorado Interstate exhibits 285 and 286 the same principle is followed.

Q. Of course in connection with Exhibit 286, the resale gas exhibit, the Colorado Interstate Gas Company does not presently confine its operations to resale gas alone and has not in the past confined its operation?

A. That is correct.

Mr. Lange: I believe that is all on that.

Redirect Examination.

By Mr. Dougherty:

Q. Mr. Lusk, in preparing Exhibits 276, 277, 285 and 286, were they prepared for the purpose of furnishing the basis for any rewriting of the company's books?

A. No, sir.

Q. As I understand, they were prepared for the purpose of showing what revenue should be collected by each company in order to give an 8 per cent return on the property base shown plus the various operating expenses and the provision for depreciation, depletion, and amortization.

A. That is the only purpose of these exhibits.

(Vol. C, 15444-15454.)

Q. In Exhibit No. 285, Statement 1, Column 7, revenues in addition to revenues required for 8 per cent return, are reflected in your income tax computation?

A. Did you say Exhibit 285, Mr. Lange?

Q. Yes, sir, Column 7, Statement 1, revenues in addition to revenues required for 8 per cent return.

A. That is right.

Q. Those are revenues in excess of 8 per cent return?

A. Yes.

Q. And, of course, those are also reflected in the computation of your Federal income tax requirements as set forth in Statement 5 of the exhibit?

A. Yes, sir, that is right.

Q. Both normal as well as excess profits tax?

A. Yes.

Q. It necessarily tends to increase the normal as well as the excess profits?

A. It depends upon whether the amount is computed on an 8 per cent return or whether it is revenues from all gas in Column 2, Statement 1, as taken from Exhibit 170.

Q. It would definitely increase the normal tax in Column 3?

A. That is right.

Q. And very probably would increase the Column 4 figure?

A. No, not Column 4. The depreciation and amortization is computed on a property basis.

Q. I mean Statement 5.

A. Statement 5?

Q. Column 3 is the normal column and Column 4 is the excess profits tax?

A. What's that?

Q. Column 3 is the normal column and Column 4 is the excess profits tax?

A. That is right.

Q. In fact, the large part, if not the greater part of this excess profits tax under Column 4 for each of the years could very well be due to that excess in revenues over 8 per cent that you have in Column 7, Statement 1?

A. That is right.

(Vol. C, 15455-15457.)

Further Testimony of the Commission's WITNESS, KENNETH L. SMITH.

CHESAPEAKE PIPE AND CONCRETE AND STANDARD PIPEWORKS, INC. COMPANY

INCORPORATED IN VIRGINIA
JANUARY 11, 1929

Line No.	Assets and Other Debits (1)	Gas Company (2)	Other Gas Companies (3)	Total (4)	Debit (5)	Credit (6)	Consolidated (7)
1	Utility Plant						
2	Gas plant in service	9,383,870.54	\$11,566,744.35	\$20,950,614.89			\$21,450,076.29
3	Construction work in progress	150,582.74	29,477.25	180,060.01			180,060.01
4	Gas plant held for future use	80,922.45	19,984.71	100,907.16			100,907.16
5	Gas plant adjustments	4,091,880.80	2,222,561.17	6,314,441.97			6,314,441.97
6	Total Utility Plant	\$14,606,256.53	\$13,809,360.00	\$28,415,616.53			\$28,415,616.53
7	Investment and Fund Accounts						
8	Other Physical Property						
9	Investment in and advances to associated company	1,176.34	16,783.91	17,960.25			17,960.25
10	Total Investment and Fund Accounts	1,176.34	16,783.91	17,960.25			17,960.25
11	Current and Accrued Assets						
12	Cash and working funds	11,009.65	14,194.18	25,203.83			25,203.83
13	Special deposits	886.02	16,000.00	16,886.02			16,886.02
14	Notes receivable	365.00	67,941.85	68,306.85			68,306.85
15	Accounts receivable						
16	Customers						
17	Receivables from associated companies	5,617.31	3,314.65	8,931.96			8,931.96
18	Accrued interest receivable	45,917.46	998,187.48	1,044,104.94			1,044,104.94
19	Accrued utility revenues		174.38	174.38			174.38
20	Materials and supplies		70,069.11	70,069.11			70,069.11
21	Field for use in gas business	87,402.49	60,185.60	147,588.09			147,588.09
22	Gasoline held for sale	3,144.42		3,144.42			3,144.42
23	Prepayments	2,146.40	15,634.84	17,781.24			17,781.24
24	Total Current and Accrued Assets	\$195,558.25	\$1,009,332.16	\$1,204,890.41			\$1,204,890.41
25	Deferred Debits						
26	Unamortized debt discount and expense						
27	Other deferred debits	34,519.70	316,187.04	350,706.74			350,706.74
28	Deferred rate case expenses	54,600.61	59,830.80	114,431.41			114,431.41
29	Total Deferred Debits	\$89,120.31	\$376,017.84	\$465,138.15			\$465,138.15
30	Total Assets and Other Debits	\$14,606,256.53	\$13,809,360.00	\$28,415,616.53			\$28,415,616.53
31	Liabilities and Other Credits						
32	Accounts payable						
33	Notes payable						
34	Accounts payable						
35	Deferred income						
36	Deferred income						
37	Deferred income						
38	Deferred income						
39	Deferred income						
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97	Deferred income						
98	Deferred income						
99	Deferred income						
100	Deferred income						

Sheet 2

CANADIAN INTERSTATE GAS COMPANY AND COLORADO INTERSTATE GAS COMPANY
CONSOLIDATED BALANCE SHEET, AS ADJUSTED
DECEMBER 31, 1949

Line No.	Description	Consolidated				
		(1)	(2)	(3)	(4)	(5)
	Liabilities and Other Credits					
	Capital Stock					
26	Common stock		1.00	\$ 2,352,942.17	\$ 2,352,942.17	\$ 2,352,942.17
27	Preferred stock			2,000,000.00	2,000,000.00	2,000,000.00
28	Total Capital Stock		1.00	\$ 4,352,942.17	\$ 4,352,942.17	\$ 4,352,942.17
	Long-Term Debt					
29	First Mortgage and Collateral Trust Twenty-year Sinking Fund Gold Bonds, due June 1, 1948					
30	Canadian River Gas Company, 6%		\$ 5,057,000.00	\$ 5,057,000.00	\$ 5,057,000.00	\$ 5,057,000.00
31	Colorado Interstate Gas Company, 3 1/2%		1,348,254.14	\$ 8,865,000.00	8,865,000.00	\$ 8,865,000.00
	Advances from associated company			1,348,254.14	1,348,254.14	1,348,254.14
32	Total Long-Term Debt		\$ 6,405,254.14	\$ 8,865,000.00	\$ 15,270,254.14	\$ 8,865,000.00
	Current and Accrued Liabilities					
33	Accounts payable		\$ 134,256.95	\$ 69,944.95	\$ 204,191.90	\$ 204,191.90
34	Payable to associated companies		\$ 72,037.81	4,000.00	\$ 276,037.81	\$ 276,037.81
35	Accrued liabilities					
36	Taxes		81,291.82	618,742.11	700,033.93	700,033.93
37	Interest			25,856.25	25,856.25	25,856.25
38	Other current and accrued liabilities		11,097.53		11,097.53	11,097.53
	Total Current and Accrued Liabilities		\$ 99,686.11	\$ 718,533.21	\$ 1,217,217.32	\$ 271,342.94
	Reserves					
39	Reserve for depreciation of gas plant in service		\$ 1,435,050.74	\$ 2,650,380.58	\$ 4,085,437.32	\$ 4,085,437.32
40	Reserve for depreciation of gas plant held for future use		2,339.96	2,344.14	4,684.10	4,684.10
41	Reserve for amortization and depletion of producing natural gas land and land rights in service		324,543.42		324,543.42	324,543.42
42	Reserve for amortization and depletion of producing natural gas land and land rights held for future use		1,423.16		1,423.16	1,423.16
43	Total Reserves		\$ 1,763,253.28	\$ 2,652,724.72	\$ 4,416,088.00	\$ 4,416,088.00
	Contingent Liabilities					
	Colorado Interstate Gas Company has guaranteed the principal and interest of a demand note of Ford, Bacon & Davis, Inc. in the amount of \$50,000.00					
44	Surplus		\$ 5,826,236.70	\$ 6,113,633.85	\$ 11,939,870.55	\$ 11,939,870.55
45	Total Liabilities and Other Credits		\$ 11,493,601.23	\$ 22,703,832.95	\$ 37,193,434.18	\$ 46,676,597.08

2219

Exhibit No. 185

Docket G-124

Schedule No. 2

Sheet 1 of 1

CANADIAN RIVER GAS COMPANY AND COLORADO INTERSTATE GAS COMPANYEXAMINER'S ELIMINATING ENTRIES RELATING TO THE CONSOLIDATEDBALANCE SHEET AS OF DECEMBER 31, 1939

3

Particulars	Debit	Credit
No. 500		
First Mortgage and Collateral Trust .		
Twenty-Year Six Per Cent Sinking Fund		
Gold Bonds, due June 1, 1948		
(Canadian River Gas Company)	\$5,057,000.00	
Advances from associated company		
(Canadian River Gas Company)	1,348,254.14	
Investment in and advances to		
associated company (Colorado		
Interstate Gas Company)		\$6,405,254.14

To eliminate Colorado Interstate
Gas Company's investment in and advances
to Canadian River Gas Company.

No. 501

Payables to associated companies		
(Canadian River Gas Company)	\$ 271,342.94	
Receivables from associated		
companies (Colorado Interstate		
Gas Company)		\$ 271,342.94

To eliminate the net amount due
from Canadian River Gas Company to
Colorado Interstate Gas Company, other
than the long-term debt eliminated in
entry No. 500.

CONSOLIDATED INCOME AND SURPLUS ACCOUNTS, AS ANNOUNCED
FOR THE YEAR ENDED DECEMBER 31, 1929

FOR THE YEAR ENDING DECEMBER 31, 1927													
Line No.	Particulars	Canadian River Gas Company	Colorado Interstate Gas Company	Total	Eliminations	Debit	Credit	Cumulative					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)					
Utility Income													
1	Operating revenues	\$2,323,186.99	\$5,779,009.87	\$ 8,165,396.86	(502)	\$2,126,359.91	(502)	\$ 13,179.23					
2	Operating revenue deductions:												
3	Gas purchased for resale		\$2,112,950.70	\$2,112,950.70				\$ 1,090,305.56					
4	Operating expenses (Schedule No. 8)	\$ 665,286.93	\$45,018.63	\$ 710,305.56				\$ 1,800,611.12					
5	Depreciation	153,987.13	266,364.97	420,352.10				\$ 2,220,963.22					
6	Depletion	144,865.27	644,865.27	789,730.54				\$ 2,999,693.76					
7	Taxes	175,311.03	644,865.27	820,176.30				\$ 3,819,870.06					
8	Nonrecurring expenses	222.60	45.19	267.79				\$ 3,820,137.85					
9	Total operating revenue deductions	\$1,275,864.56	\$3,419,317.36	\$4,695,181.92				\$ 3,820,137.85					
10	Net operating revenues	\$1,047,322.43	\$2,359,692.51	\$ 3,406,914.94				\$ 3,820,137.85					
Exploration and Development Costs													
11	Delay rentals	\$ 10,401.58		\$ 10,401.58				\$ 3,830,539.43					
12	Nonproductive well drilling	22,293.73		22,293.73				\$ 3,852,833.16					
13	Abandoned leases	1,878.18		1,878.18				\$ 3,854,711.34					
14	Total exploration and development costs	\$24,573.49		\$24,573.49				\$ 3,879,284.83					
15	Net utility income	\$1,022,748.94	\$2,359,692.51	\$ 3,382,441.45				\$ 3,903,726.28					
Other Income													
16	Interest												
17	Profit on Canadian River Gas Company bonds redeemed	\$ 17.86	\$40,394.31	\$ 40,412.17	(503)	\$ 40,412.17		\$ 3,944,138.45					
18	Miscellaneous (net)	882.39	11,900.00	12,782.39	(504)	11,900.00		\$ 3,956,040.84					
19	Total other income	\$18,880.25	\$52,294.31	\$ 71,174.56				\$ 4,027,215.40					
20	Gross income	\$1,041,629.19	\$2,411,986.82	\$ 3,453,616.01				\$ 4,098,831.41					
Income Deductions													
21	Interest on long-term debt	\$327,235.00	\$ 329,233.33	\$ 656,468.33				\$ 4,164,479.74					
22	Amortization of debt discount and expense		\$ 6,179.95	\$ 6,179.95				\$ 4,170,659.69					
23	Interest on debt to associated company	104,962.71	\$ 40,176.95	145,139.66				\$ 4,315,799.35					
24	Other interest charges							\$ 4,315,799.35					
25	Miscellaneous	\$2,423.39	\$ 1,754.02	\$ 4,177.41				\$ 4,320,000.00					
26	Total income deductions	\$434,621.10	\$ 381,164.30	\$ 815,785.40				\$ 4,320,000.00					
27	Net income	\$606,998.09	\$2,030,822.52	\$ 2,637,820.61				\$ 4,320,000.00					
Earnings Surplus													
Credits:													
28	Balance at beginning of year	\$4,398,551.16	\$5,705,819.17	\$10,704,400.33				\$10,704,400.33					
29	Net income as above	\$606,998.09	\$2,030,822.52	\$ 2,637,820.61				\$ 13,342,220.94					
30	Total credits	\$5,005,549.25	\$7,736,641.69	\$12,742,190.94				\$13,342,220.94					
Debits:													
31	Dividends declared and paid:												
32	On common stock		\$1,875,000.00	\$1,875,000.00				\$ 11,467,220.94					
33	On preferred stock	\$11,900.00		\$11,900.00				\$ 11,479,120.94					
34	Premium on bonds redeemed	\$11,900.00	\$1,995,000.00	\$ 2,006,900.00				\$ 13,486,020.94					
35	Total debits	\$23,800.00	\$1,995,000.00	\$ 2,018,800.00				\$ 13,498,020.94					
36	Balance at end of year	\$5,021,749.25	\$5,741,641.69	\$10,763,390.94				\$13,498,020.94					

CANADIAN RIVER GAS COMPANY AND COLORADO INTERSTATE GAS COMPANY
CONSOLIDATED INCOME AND SURPLUS ACCOUNTS AT DECEMBER 31, 1936
FOR THE YEAR ENDED DECEMBER 31, 1936

Line No.	Particulars	Canadian River Gas Company (1)	Colorado Interstate Gas Company (2)	Total (4)	Eliminations (5)	Credit (6)	Consolidated (7)
	Utility Income	\$2,205,724.32	\$5,201,272.59	\$7,407,166.91	(502) \$2,015,666.10	(502) \$9,137.85	\$5,180,411.66
1	Operating revenues	\$2,006,925.25	\$2,006,925.25			(502) \$2,006,925.25	\$1,066,050.01
2	Gas purchased for resale	675,129.80	994,920.21	1,669,050.01			141,045.80
3	Operating expenses (Schedule No. 9)	153,008.23	261,097.57	414,105.80			36,323.83
4	Depreciation	167,241.04	514,999.69	682,240.73			662,240.73
5	Taxes	6,274.35	1,810.79	8,085.14			8,085.14
6	Nonrecurring expenses	11,095,976.45	13,179,223.51	24,275,199.96	\$2,015,666.10	\$2,015,666.10	\$2,271,866.55
7	Total operating revenue deductions	17,205,817.87	\$2,022,079.08	\$3,271,866.55			
8	Net operating revenues	\$18,333.81		\$18,333.81			\$18,333.81
9	Exploration and Development Costs	674.30		674.30			674.30
10	Lease rentals	19,008.11		19,008.11			19,008.11
11	Abandoned leases	1,250,805.76	\$2,022,079.08	\$3,272,884.84	\$2,015,666.10	\$2,015,666.10	\$3,257,218.74
12	Total exploration and development costs						
13	Net utility income	\$16,859.91	\$177,731.16	\$194,591.07	(503) \$1,468,778.14	(503) \$1,468,778.14	\$9,576.93
14	Other Income						
15	Interest	26,180	14,750.00	40,930.00			713.13
16	Profit on Canadian River Gas Company bonds redeemed	881.71	432,295.79	433,177.50	\$1,468,778.14	\$1,468,778.14	\$10,282.38
17	Miscellaneous (net)	1,231,704.47	\$2,935,014.87	\$4,166,719.34	\$2,015,666.10	\$2,015,666.10	\$2,151,053.24
18	Total other income	\$1,232,886.89	\$3,411,060.56	\$4,643,947.45			\$589,595.83
19	Income Deductions	\$362,890.00	\$489,595.83	\$852,485.83	(503) \$362,890.00	(503) \$362,890.00	\$7,632.19
20	Interest on long-term debt	105,848.14	7,632.19	113,480.33			6,672.70
21	Amortization of debt discount and expense	45.00	6,672.70	6,717.70			25,800.00
22	Interest on debt to associated company						58,678.79
23	Other interest charges	23,532.74	32,146.05	55,678.79			685,279.27
24	Premium on Colorado Interstate Gas Company bonds redeemed	132,355.84	684,801.77	817,157.61	\$1,468,778.14	\$1,468,778.14	\$2,574,631.69
25	Miscellaneous	725,408.25	\$1,850,275.10	\$2,575,683.35	\$2,100,111.24	\$2,100,111.24	\$2,574,631.69
26	Total income deductions	\$1,232,890.00	\$489,595.83	\$1,722,485.83			
27	Net income	\$1,232,886.89	\$3,411,060.56	\$4,643,947.45			\$9,137.85
28	Surplus	\$4,273,992.57	\$5,225,576.07	\$9,499,568.64			\$2,574,631.69
29	Credits:						
30	Balance at beginning of year	739,348.59	1,850,275.10	2,589,623.69	\$2,100,111.24	\$2,100,111.24	\$12,100,111.24
31	Net income as above	\$5,015,241.16	\$1,015,241.16	\$6,030,482.32	\$2,100,111.24	\$2,100,111.24	\$12,100,111.24
32	Total credits	\$5,754,482.75	\$2,865,516.26	\$8,620,000.00			\$1,250,000.00
33	Debits:						
34	Dividends declared and paid:						
35	On common stock	\$1,750.00	120,000.00	121,750.00	(504) \$1,750.00	(504) \$1,750.00	\$1,750,000.00
36	On preferred stock	11,750.00		11,750.00			
37	Premium on bonds redeemed	11,750.00	\$1,270,000.00	\$1,281,750.00			
38	Total debits	\$11,999,551.16	\$5,705,816.17	\$17,705,367.33	\$2,100,111.24	\$2,100,111.24	\$10,704,400.33
39	Balance at end of year						

FIVE YEAR YEAR END DECEMBER 31, 1937

Line No.	Particulars	(1)	(2)	(3)	Total (4)	Debit (5)	Credit (6)	Consolidated (7)
	Utility Income							
1	Operating revenues				\$1,769,883.82			\$1,769,883.82
2	Operating revenue deductions							
3	Gas purchased for resale				\$1,982,268.90			\$1,982,268.90
4	Operating expenses (Schedule No. 10)				\$57,248.35			\$57,248.35
5	Depreciation				144,723.45			144,723.45
6	Depletion				261,156.72			261,156.72
7	Taxes				39,199.22			39,199.22
8	Nonrecurring expenses				533,746.26			533,746.26
9	Total operating revenue deductions				1,982,268.90			1,982,268.90
10	Net operating revenues				\$1,769,883.82			\$1,769,883.82
	Exploration and Development Costs							
11	Lease rentals				\$19,960.45			\$19,960.45
12	Total exploration and development costs				\$19,960.45			\$19,960.45
13	Net utility income				\$1,749,923.37			\$1,749,923.37
	Other Income							
14	Interest				\$1,182.90			\$1,182.90
15	Profit on Canadian River Gas Company bonds redeemed				517,372.95			517,372.95
16	Miscellaneous (net)				17,820.00			17,820.00
17	Total other income				535,555.85			535,555.85
18	Gross income				\$1,749,923.37			\$1,749,923.37
	Income Deductions							
19	Interest and long-term debt				\$1,090,825.00			\$1,090,825.00
20	Mortgage of debt discount and expense				701.76			701.76
21	Interest on debt to associated company				108,939.22			108,939.22
22	Premiums on Colorado Interstate Gas Company bonds redeemed				15,570.00			15,570.00
23	Miscellaneous				33,691.80			33,691.80
24	Total income deductions				\$1,349,827.78			\$1,349,827.78
25	Net income				\$400,095.59			\$400,095.59
	Earned Surplus							
26	Balance at beginning of year				\$8,566,653.39			\$8,566,653.39
27	Net income as above				400,095.59			400,095.59
28	Total credits				\$8,966,748.98			\$8,966,748.98
	Debits:							
29	Dividends declared and paid:							
30	On common stock				17,820.00			17,820.00
31	On preferred stock				17,820.00			17,820.00
32	Premium on bonds redeemed				17,820.00			17,820.00
33	Total debits				53,460.00			53,460.00
34	Balance at end of year				\$8,913,288.98			\$8,913,288.98

STANDARD FORM OF CONTRACT AND EXPOSURE AGREEMENT FOR COMMERCE
-CAMERAS'S RECOVERING METHOD LEADING TO THE CONSOLIDATED
INCOME AND SURPLUS ACCOUNTS FOR THE YEARS 1987, 1988 AND 1989

Line No.	Particulars	1929		1930		1937	
		Debit (2)	Credit (3)	Debit (4)	Credit (5)	Debit (6)	Credit (7)
No. 802							
1	Operating revenues (Canadian River Gas Company)		\$2,126,329.91	\$2,015,643.10		\$1,990,761.14	
2	Gas purchased for resale (Colorado Interstate Gas Company)		\$2,115,980.70		\$2,006,328.28		\$1,982,868.00
3	Operating revenues (inter-departmental sales)		15,379.21		9,137.08		10,492.24
To eliminate gas sales by Canadian River Gas Company to Colorado Interstate Gas Company, and to transfer credit for gas used in operations by latter company to an inter-departmental sales account. (Gas used by Colorado Interstate Gas Company is not stated in expenses on basis of cost as adjusted.)							
No. 803							
4	Interest revenues (Colorado Interstate Gas Company)		\$ 452,197.71	\$ 468,776.14		\$ 507,339.22	\$ 595,400.00
5	Interest on long-term debt (Canadian River Gas Company)				\$ 561,830.00		
6	Interest on debt to associated companies (Canadian River Gas Company)				106,948.14		106,948.14
To eliminate the interest paid by Canadian River Gas Company to Colorado Interstate Gas Company on its long-term debt, notes, current and other accounts.							
No. 804							
7	Profit on Canadian River Gas Company bonds redeemed			\$ 14,790.00		\$ 17,830.00	\$ 17,830.00
8	(Colorado Interstate Gas Company)						
9	Surplus - premium on bonds redeemed (Canadian River Gas Company)		\$ 11,900.00				

To eliminate the premium paid by Canadian River Gas Company to Colorado Interstate Gas Company on the bonds of the former company redeemed.

No. 504

Profit on Canadian River Gas Company bonds redeemed
(Colorado Interstate Gas Company)
Surplus - premium on bonds redeemed (Canadian
Gas Company)

To eliminate the premium paid by Canadian River Gas Company to Colorado Interstate Gas Company on the bonds of the former company redeemed.

CANADIAN RIVER GAS COMPANY AND COLORADO INTERSTATE GAS COMPANY
CONSOLIDATED INCOME AND SURPLUS ACCOUNTS, AS ADJUSTED
1928 TO 1939, INCLUSIVE

Line No.	Particulars	1939	1938	1937	1936	1935	1934	1933	1932
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Utility Income									
1	Operating revenues	\$ 6,053,446.16	\$ 5,480,641.66	\$ 5,865,430.26	\$ 5,540,871.83	\$ 4,604,980.44	\$ 4,073,397.67	\$ 3,711,338.05	\$ 4,069,711.12
2	Operating revenue deductions								
3	Operating expenses	\$ 1,090,305.56	\$ 1,068,050.01	\$ 951,602.11	\$ 939,637.86	\$ 760,212.51	\$ 774,971.89	\$ 707,569.30	\$ 833,041.30
4	Depreciation	420,372.10	444,045.80	405,880.17	405,469.16	402,322.00	404,821.39	403,699.34	399,984.80
5	Depletion	44,865.27	36,323.03	39,199.22	35,395.08	26,906.50	23,336.89	17,328.43	17,253.98
6	Taxes	790,088.80	682,240.73	699,195.25	627,023.28	485,720.85	371,237.41	360,691.68	334,559.62
7	Nonrecurring expenses	267.79	8,085.14	4,516.49	25,923.46	44,231.73	39,308.03		
8	Total operating revenue deductions	\$ 2,345,899.52	\$ 2,208,744.71	\$ 2,100,893.24	\$ 2,033,448.84	\$ 1,719,393.59	\$ 1,613,675.61	\$ 1,489,288.75	\$ 1,584,839.70
	Net operating revenues	\$ 3,707,546.64	\$ 3,271,896.95	\$ 3,765,037.02	\$ 3,507,422.99	\$ 2,885,586.85	\$ 2,459,722.06	\$ 2,221,799.30	\$ 2,484,871.42
Exploration and Development Costs									
9	Delay rentals	\$ 10,401.58	\$ 18,333.81	\$ 19,960.45	\$ 12,720.81	\$ 47,232.89	\$ 53,525.40	\$ 107,652.92	\$ 155,679.81
10	Nonproductive well drilling	29,293.73							
11	Abandoned leases	1,878.18	674.30		43,173.67	36.79		81,585.13	5,459.07
12	Other exploration costs								
13	Total Exploration and Development Costs	\$ 41,573.49	\$ 19,008.11	\$ 19,960.45	\$ 55,894.48	\$ 47,269.68	\$ 53,525.40	\$ 189,238.05	\$ 161,138.88
14	Net Utility Income	\$ 3,665,973.15	\$ 3,252,888.84	\$ 3,745,076.57	\$ 3,451,528.51	\$ 2,838,317.17	\$ 2,406,196.66	\$ 2,032,561.25	\$ 2,323,732.54
Other Income									
15	Interest	\$ 8,204.48	\$ 9,578.93	\$ 11,216.63	\$ 8,835.06	\$ 9,120.19	\$ 12,733.64	\$ 9,291.13	\$ 9,028.18
16	Miscellaneous (net)	834.76	743.43	764.25	629.51	(73.84)	114.23	113.33	684.58
17	Total Other Income	\$ 9,039.24	\$ 10,322.36	\$ 11,980.88	\$ 9,464.57	\$ 9,046.35	\$ 12,847.87	\$ 9,404.46	\$ 9,712.76
18	Gross Income	\$ 3,675,012.39	\$ 3,263,211.20	\$ 3,757,057.45	\$ 3,460,993.08	\$ 2,847,363.52	\$ 2,419,044.53	\$ 2,041,965.71	\$ 2,333,445.30
Income Deductions									
19	Interest on long-term debt	\$ 329,233.33	\$ 589,595.83	\$ 682,425.00	\$ 723,920.00	\$ 819,900.00	\$ 882,180.00	\$ 944,460.00	\$ 1,006,740.00
20	Amortization of debt discount and expense	40,178.95	7,632.19	701.76	701.76	701.76	701.76	701.76	701.76
21	Other interest charges	13,157.41	6,672.70			21.42	2,419.50	20,384.14	42,890.71
22	Interest charged to construction - credit								
23	Premium on Colorado Interstate Gas Com-								
24	pany bonds redeemed		25,800.00	15,570.00	46,680.00	31,140.00	31,140.00	31,140.00	41,520.00
25	Miscellaneous	61,910.48	58,678.79	63,945.44	10,091.75	6,811.85	2,131.19	2,080.50	1,931.65
	Total Income Deductions	\$ 444,480.17	\$ 683,779.51	\$ 762,652.20	\$ 781,393.51	\$ 858,575.03	\$ 918,572.45	\$ 998,765.40	\$ 1,093,784.12
26	Net Income (loss)	\$ 3,230,532.22	\$ 2,579,431.69	\$ 2,994,405.25	\$ 2,679,599.57	\$ 1,988,788.49	\$ 1,500,472.08	\$ 1,043,202.31	\$ 1,239,661.18
Earned Surplus									
27	Balance at Beginning of period	\$10,704,400.33	\$ 9,499,568.64	\$ 8,562,653.39	\$ 7,565,553.82	\$ 6,476,765.33	\$ 4,971,293.25	\$ 3,928,090.94	\$ 2,688,429.76
28	Net income (loss) as above	3,230,532.22	2,579,431.69	2,994,405.25	2,679,599.57	1,988,788.49	1,500,472.08	1,043,202.31	1,239,661.18
29	Dividends declared and paid								
30	On common stock	(1,875,000.00)	(1,250,000.00)	(1,937,500.00)	(1,562,500.00)				
31	On preferred stock	(120,000.00)	(120,000.00)	(120,000.00)	(120,000.00)	(900,000.00)			
	Balance at End of Period	\$11,939,932.55	\$10,704,400.33	\$9,499,568.64	\$8,562,653.39	\$7,565,553.82	\$6,476,765.33	\$4,971,293.25	\$3,928,090.94

CANADIAN RIVER GAS COMPANY AND COLORADO INTERSTATE GAS COMPANY
CONSOLIDATED INCOME AND SURPLUS ACCOUNTS, AS ADJUSTED
1928 TO 1939, INCLUSIVE

8

Year Ended December 31											Period Ended Dec. 31, 1928
1938 (3)	1937 (4)	1936 (5)	1935 (6)	1934 (7)	1933 (8)	1932 (9)	1931 (10)	1930 (11)	1929 (12)	1928 (13)	
\$ 5,480,641.66	\$5,865,430.26	\$5,540,871.83	\$4,604,980.44	\$4,073,397.67	\$3,711,088.05	\$4,069,711.12	\$3,864,787.75	\$3,666,850.93	\$2,978,462.30	\$984,971.38	
\$ 1,068,050.01	\$ 951,602.11	\$ 939,637.86	\$ 760,212.51	\$ 774,971.89	\$ 707,569.30	\$ 833,041.30	\$ 791,751.25	\$ 619,068.49	\$ 445,469.50	\$248,656.69	
444,045.80	405,880.17	405,469.16	402,322.00	404,821.39	403,699.34	399,984.80	389,490.53	363,273.17	336,282.19	156,858.02	
36,323.03	39,199.22	35,395.08	26,906.50	23,336.89	17,328.43	17,253.98	15,698.16	14,803.66	9,015.41	3,045.35	
682,240.73	699,195.25	627,023.28	485,720.85	371,237.41	360,691.68	334,559.62	286,888.97	238,529.94	292,971.35	37,548.29	
8,085.14	4,516.49	25,923.46	44,231.73	39,308.03							
\$ 2,208,744.71	\$2,100,393.24	\$2,033,448.84	\$1,719,393.59	\$1,613,675.61	\$1,489,288.75	\$1,584,839.70	\$1,483,828.91	\$1,235,675.26	\$1,083,738.45	\$445,108.35	
\$ 3,271,896.95	\$3,765,037.02	\$3,507,422.99	\$2,885,586.85	\$2,464,722.06	\$2,221,799.30	\$2,484,871.42	\$2,380,958.84	\$2,431,175.67	\$1,894,723.85	\$538,863.03	
\$ 18,333.81	\$ 19,960.45	\$ 12,720.81	\$ 47,232.89	\$ 53,525.40	\$ 107,652.92	\$ 155,679.81	\$ 140,880.04	\$ 87,917.13	\$ 95,317.49	\$ 60,450.47	
674.30		43,173.67	36.79		81,585.13	5,459.07	61,160.96	3,313.45	1,943.52		
								16.29	1,260.22		
\$ 19,008.11	\$ 19,960.45	\$ 55,894.48	\$ 47,269.68	\$ 53,525.40	\$ 189,238.05	\$ 161,138.88	\$ 202,041.00	\$ 91,246.87	\$ 98,521.23	\$ 60,450.47	
\$ 3,252,888.84	\$3,745,076.57	\$3,451,528.51	\$2,838,317.17	\$2,411,196.66	\$2,032,561.25	\$2,323,732.54	\$2,178,917.84	\$2,339,928.80	\$1,796,202.62	\$478,412.56	
\$ 9,578.93	\$ 11,216.63	\$ 8,835.06	\$ 9,120.19	\$ 12,733.64	\$ 9,291.13	\$ 9,028.18	\$ 9,989.23	\$ 25,094.16	\$ 9,838.30	\$ 3,493.46	
743.43	764.25	629.51	(73.84)	114.23	113.33	684.58	5,210.67	4,215.96	14,604.79	1,241.47	
\$ 10,322.36	\$ 11,980.88	\$ 9,464.57	\$ 9,046.35	\$ 12,847.87	\$ 9,404.46	\$ 9,712.76	\$ 15,199.90	\$ 29,310.12	\$ 24,443.09	\$ 4,734.93	
\$ 3,263,211.20	\$3,757,057.45	\$3,460,993.08	\$2,847,363.52	\$2,424,044.53	\$2,041,965.71	\$2,333,445.30	\$2,194,117.74	\$2,369,238.92	\$1,820,645.71	\$483,147.49	
\$ 589,595.83	\$ 682,425.00	\$ 723,920.00	\$ 819,900.00	\$ 882,180.00	\$ 944,460.00	\$1,006,740.00	\$1,069,020.00	\$1,131,275.00	\$1,013,904.67	\$496,807.50	
7,632.19	701.76	701.76	701.76	701.76	701.76	701.76	698.25	698.25	698.25	349.13	
6,672.70			21.42	2,419.50	20,381.14	42,890.71	52,329.84	14,716.57	61,103.74	208,866.84	
										(324,598.44)	
25,800.00	15,570.00	46,680.00	31,140.00	31,140.00	31,140.00	41,520.00	41,520.00	41,480.00			
58,678.79	63,945.44	10,091.75	6,811.85	2,131.19	2,080.50	1,931.65	3,676.28	7,142.26	716.82	358,315.14	
\$ 688,379.51	\$ 762,642.20	\$ 781,993.51	\$ 858,575.03	\$ 918,572.45	\$ 998,763.40	\$1,093,784.12	\$1,167,244.37	\$1,195,312.08	\$1,076,423.48	\$739,740.17	
\$ 2,574,831.69	\$2,994,415.25	\$2,679,599.57	\$1,988,788.49	\$1,505,472.08	\$1,043,202.31	\$1,239,661.18	\$1,026,873.37	\$1,173,926.84	\$ 744,222.23	(\$256,592.68)	
\$ 9,499,568.64	\$8,562,653.39	\$7,565,553.82	\$6,476,765.33	\$4,971,293.25	\$3,928,090.94	\$2,688,429.76	\$1,661,556.35	\$ 487,629.55	\$ (256,592.68)		
2,574,831.69	2,994,415.25	2,679,599.57	1,988,788.49	1,505,472.08	1,043,202.31	1,239,661.18	1,026,873.37	1,173,926.84	744,222.23	(\$256,592.68)	
(1,250,000.00)	(1,937,500.00)	(1,562,500.00)									
(120,000.00)	(120,000.00)	(120,000.00)	(900,000.00)								
\$10,704,400.33	\$9,499,568.64	\$8,562,653.39	\$7,565,553.82	\$6,476,765.33	\$4,971,293.25	\$3,928,090.94	\$2,688,429.76	\$1,661,556.35	\$ 487,629.55	(\$256,592.68)	

CANADIAN LIVER GAS COMPANY AND COLORADO INTERSTATE GAS COMPANY
EXHIBIT'S RELATES TO TRANSMISSION, DISTRIBUTION AND ADMINISTRATIVE EXPENSES
YEARS 1937, 1938 AND 1939

Line No.	Particulars	1937		1938		1939	
		Debit (2)	Credit (3)	Debit (4)	Credit (5)	Debit (6)	Credit (7)

No. 806

1	Transmission expenses - general expenses - transmission system	\$ 10,614.33		\$ 1,350.84		\$ 1,279.25	
2	Transmission expenses - general expenses - compressing system	10,792.23		1,532.80		1,589.97	
3	Distribution expenses - general expenses	3,500.92		469.40		446.80	
4	General and administrative expenses		\$ 24,707.46		\$ 3,341.13		\$ 3,315.19

To allocate the following general and administrative expenses of Colorado Interstate Gas Company to functional groups on the basis of the total pay roll charges to operation and maintenance accounts included in each functional group:

Account	1937	1938	1939
5 Injuries and damages	\$ 413.49	\$ 371.86	\$ 342.24
6 Absent time due to illness	2,374.46	2,902.10	3,907.09
7 Employees' welfare	22,013.80	26.18	266.66
8 Total	<u>\$24,707.46</u>	<u>\$ 3,341.13</u>	<u>\$ 3,315.19</u>

No. 806

9	Transmission expenses - general expenses - transmission system	\$ 32,417.60		\$ 35,552.03		\$ 25,794.34	
10	Transmission expenses - general expenses - compressing system	32,903.15		34,736.07		37,563.39	
11	Distribution expenses - general expenses	12,488.86		13,822.80		12,834.19	
12	General and administrative expenses		\$ 76,809.74		\$ 82,110.40		\$ 79,811.96

To allocate the remainder of Colorado Interstate Gas Company's general and administrative expenses (all other than the three accounts allocated on entry No. 806 above) on the basis of the total direct charges to each functional group.

Particulars	1937	1938	1939
Total general and administrative expenses, as adjusted	\$103,617.22	\$85,451.73	\$83,227.15
Less amounts allocated on entry No. 806	<u>74,707.46</u>	<u>3,341.13</u>	<u>3,315.19</u>
Remainder, allocated on this entry	<u>\$ 28,909.76</u>	<u>\$82,110.60</u>	<u>\$79,911.96</u>

CANADIAN RIVER GAS COMPANY AND COLORADO INTERSTATE GAS COMPANY
EXPENSES RELATIVE TO ALLOCATE GENERAL AND ADMINISTRATIVE EXPENSES
YEARS 1937, 1938 AND 1939

2233

Exhibit No. 185 22

Line No.	Particulars (1)	1937		1938		1939	
		Debit (2)	Credit (3)	Debit (4)	Credit (5)	Debit (6)	Credit (7)
16	Production expenses - general expenses						
17	Transmission expenses - general expenses - transmission system						
18	Transmission expenses - general expenses - compressing system						
19	General and administrative expenses						

No. 807

16	Production expenses - general expenses						
17	Transmission expenses - general expenses - transmission system						
18	Transmission expenses - general expenses - compressing system						
19	General and administrative expenses						

To allocate the total general and administrative expenses of Canadian River Gas Company on the basis of the total direct charges to each functional group, after the following adjustments (for allocation purposes only):

- (1) Add back the credit for residuals produced.
- (2) Deduct residuals operating expenses applicable to Pitha station, and
- (3) Deduct lease and operating expenses paid to Texas Natural Gas Company.

16	Production expenses - general expenses						
17	Transmission expenses - general expenses - transmission system						
18	Transmission expenses - general expenses - compressing system						
19	General and administrative expenses						

16	Production expenses - general expenses						
17	Transmission expenses - general expenses - transmission system						
18	Transmission expenses - general expenses - compressing system						
19	General and administrative expenses						

Exhibit No. 185

Docket G-124

Schedule No. 12
Sheet 1 of 1

23

CANADIAN RIVER GAS COMPANY AND COLORADO INTERSTATE GAS COMPANY
CONSOLIDATED WORKING CAPITAL
BASED ON OPERATIONS DURING THE YEAR 1939

Functional Allocation	Total (Note 1)	Canadian River Gas Company	Colorado Interstate Gas Company
(1)	(2)	(3)	(4)
Production	\$135,338.82	\$135,338.82	
Transmission:			
Other than compressing	65,375.22	5,470.25	\$ 59,904.97
Compressing	48,684.05	9,929.31	38,754.74
Distribution	10,405.27		10,405.27
Total	<u>\$259,803.36</u>	<u>\$150,738.38</u>	<u>\$109,064.98</u>

Note:

- (1) No intercompany eliminations are involved in the consolidated working capital, as no allowance was made for Colorado Interstate Gas Company's purchased gas. If the consolidated working capital were computed, based on the consolidated operations during the year 1939, the result would be approximately \$1,900 less than the total shown above, which represents a mere combination of working capital requirements of Canadian River Gas Company and Colorado Interstate Gas Company. The \$1,900 difference referred to would result from the decrease of about two days in the lag in the receipt of consolidated revenues as compared with the lag in the receipt of revenues by Canadian River Gas Company. Due to the comparatively small difference involved (less than one percent) the computation of working capital on a consolidated basis has not been presented. The above combination of the working capital requirements of the two companies yields a result which is substantially the same amount as if the computation were on the basis of consolidated operations.

CANADIAN RIVER GAS COMPANY AND COLORADO INTERSTATE GAS COMPANY
RATE OF RETURN
1928 TO 1939, INCLUSIVE

Line No.	Particulars (1)	Reference (2)	Average (3)	1939 (4)	1938 (5)	1937 (6)	1936 (7)	1935 (8)	1934 (9)	1933 (10)	1932 (11)
<u>Based on Adjusted Accounts</u>											
1	Average balance of gas plant in service, as adjusted	Sch. 13-A, Line 8		\$21,220,967.39	\$20,845,624.94	\$20,493,666.38	\$20,213,657.91	\$20,080,373.97	\$19,977,114.55	\$19,819,299.03	\$19,640,269.58
2	Less average balance in reserves for depreciation and depletion of gas plant in service, as adjusted	Sch. 13-A, Line 16		4,204,857.56	3,793,716.45	3,400,315.67	3,017,430.22	2,573,810.02	2,329,079.23	1,933,896.62	1,557,069.10
3	Net average investment in gas plant in service, as adjusted			\$17,016,109.83	\$17,051,908.49	\$17,093,350.71	\$17,196,227.69	\$17,406,563.95	\$17,648,035.32	\$17,885,402.41	\$18,083,200.48
4	Working capital (Note 1)	Sch. 12		259,803.36	259,803.36	259,803.36	259,803.36	259,803.36	259,803.36	259,803.36	259,803.36
5	Total average investment			\$17,275,913.19	\$17,311,711.85	\$17,353,154.07	\$17,456,031.05	\$17,666,367.31	\$17,907,838.68	\$18,145,205.77	\$18,343,003.84
6	Net utility income (Note 2)	Sch. 7, Line 14		\$ 3,654,365.74	\$ 3,665,973.15	\$ 3,752,888.84	\$ 3,745,076.57	\$ 3,451,528.51	\$ 2,836,317.17	\$ 2,411,196.66	\$ 2,032,561.25
7	Rate of return		15.14%	21.22%	16.80%	21.58%	19.77%	16.07%	13.46%	11.20%	12.67%

Notes: (1) The consolidated working capital based on operations during the year 1939 is used above in the computation of the rate of return for all years. If the working capital for the years prior to 1939 were actually computed, the result would be less than the amounts used above, and the rate of return slightly larger since the operating expenses and material and supply accounts were smaller in each of the years prior to 1939 than in the year 1939.

(2) Income of years 1937, 1938 and 1939 was adjusted in detail; of years prior to 1937 for significant items only.

(3) The rate of return as computed for the seven months ended December 31, 1928 is stated on an annual basis.

CANADIAN RIVER GAS COMPANY AND COLORADO INTERSTATE GAS COMPANY
RATE OF RETURN
1928 TO 1939, INCLUSIVE

Average (3)	Year Ended December 31												Seven Months Ended Dec. 31
	1935 (4)	1938 (5)	1937 (6)	1936 (7)	1935 (8)	1934 (9)	1933 (10)	1932 (11)	1931 (12)	1930 (13)	1929 (14)	1928 (15)	
	\$21,220,967.39	\$20,635,621.94	\$20,493,666.38	\$20,213,657.91	\$20,080,373.97	\$19,977,114.55	\$19,819,299.03	\$19,640,269.58	\$18,876,367.45	\$17,247,932.27	\$16,227,743.35	\$16,157,556.29	
	4,204,857.56	3,793,716.45	3,400,315.67	3,017,430.22	2,673,810.02	2,329,079.23	1,933,896.62	1,557,069.10	1,190,255.72	821,966.13	485,893.44	248,403.24	
	\$17,016,109.83	\$17,041,908.49	\$17,093,350.71	\$17,196,227.69	\$17,406,563.95	\$17,648,035.32	\$17,885,402.41	\$18,083,200.48	\$17,686,111.73	\$16,422,966.14	\$15,741,847.91	\$15,909,153.05	
	259,803.36	259,803.36	259,803.36	259,803.36	259,803.36	259,803.36	259,803.36	259,803.36	259,803.36	259,803.36	259,803.36	259,803.36	
\$17,396,672.19	\$17,275,913.19	\$17,301,711.85	\$17,353,154.07	\$17,456,031.05	\$17,666,367.31	\$17,907,838.68	\$18,145,205.77	\$18,343,003.84	\$17,945,915.09	\$16,682,769.50	\$16,001,651.27	\$16,168,956.41	
\$2,634,365.74	\$3,665,973.15	\$3,252,888.84	\$3,745,076.57	\$3,451,528.51	\$2,838,317.17	\$2,411,196.66	\$2,032,561.25	\$2,323,732.54	\$2,178,917.84	\$2,339,928.80	\$1,796,202.62	\$478,412.56	
15.14%	21.22%	18.80%	21.58%	19.77%	16.07%	13.46%	11.20%	12.67%	12.14%	14.03%	11.23%	5.07% (Note 3)	

Notes: (1) The consolidated working capital based on operations during the year 1939 is used above in the computation of the rate of return for all years. If the working capital for the years prior to 1939 were actually computed, the result would be less than the amounts used above, and the rate of return slightly larger since the operating expenses and material and supply accounts were smaller in each of the years prior to 1939 than in the year 1939.

(2) Income of years 1937, 1938 and 1939 was adjusted in detail; of years prior to 1937 for significant items only.

(3) The rate of return as computed for the seven months ended December 31, 1928 is stated on an annual basis.

CANADIAN RIVER GAS COMPANY AND COLORADO INTERSTATE GAS COMPANY
DETAILS OF CERTAIN ITEMS INCLUDED IN COMPUTATION OF RATE OF RETURN, BASED ON ADJUSTED ACCOUNTS

Line No.	Particulars	1939	1936	1937	1936	1935	1934	1933	1932	1931
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
<u>Average Balance in Gas Plant in Service, As Adjusted</u>										
Canadian River Gas Company										
1	Balance at beginning of period	\$ 9,454,054.44	\$ 9,229,902.71	\$ 8,944,063.25	\$ 8,768,811.93	\$ 8,814,756.24	\$ 8,748,615.66	\$ 8,535,520.15	\$ 8,505,297.34	\$ 8,272,674.20
2	Balance at end of period	9,923,329.94	9,454,054.44	9,229,902.71	8,944,063.25	8,768,814.93	8,814,756.24	8,748,615.66	8,535,520.15	8,505,297.34
3	Total	\$19,377,384.38	\$18,683,957.15	\$18,173,965.96	\$17,712,876.18	\$17,583,571.17	\$17,563,371.90	\$17,284,135.81	\$17,040,817.49	\$16,777,971.54
Colorado Interstate Gas Company										
4	Balance at beginning of period	\$11,537,804.04	\$11,449,488.70	\$11,363,878.10	\$11,350,559.54	\$11,226,617.22	\$11,164,239.99	\$11,190,222.26	\$11,049,499.41	\$ 9,925,263.94
5	Balance at end of period	11,526,746.35	11,537,804.04	11,449,488.70	11,363,878.10	11,350,559.54	11,226,617.22	11,164,239.99	11,190,222.26	11,049,499.41
6	Total	\$23,064,550.39	\$22,987,292.74	\$22,813,366.80	\$22,714,437.64	\$22,577,176.76	\$22,390,857.21	\$22,354,462.25	\$22,239,721.67	\$20,974,763.35
7	Combined (line 3 plus line 6)	\$42,441,934.77	\$41,671,249.89	\$40,987,332.76	\$40,427,315.82	\$40,160,747.93	\$39,954,229.11	\$39,638,598.06	\$39,280,539.16	\$37,752,734.89
8	Average (line 7 divided by 2)	\$21,220,967.39	\$20,835,624.94	\$20,493,666.38	\$20,213,657.91	\$20,080,373.97	\$19,977,114.55	\$19,819,299.03	\$19,640,269.58	\$18,876,367.45
<u>Average Balance in Reserves for Depreciation and Depletion of Gas Plant in Service, As Adjusted</u>										
Canadian River Gas Company										
9	Balance at beginning of period	\$ 1,572,294.65	\$ 1,404,532.08	\$ 1,268,516.94	\$ 1,108,418.47	\$ 1,057,647.50	\$ 907,884.14	\$ 753,470.86	\$ 641,128.58	\$ 492,387.10
10	Balance at end of period	1,759,600.16	1,572,294.65	1,404,532.08	1,268,516.94	1,108,418.47	1,057,647.50	907,884.14	753,470.86	641,128.58
11	Total	\$ 3,331,894.81	\$ 2,976,826.73	\$ 2,673,049.02	\$ 2,376,935.41	\$ 2,166,065.97	\$ 1,965,531.64	\$ 1,661,355.00	\$ 1,394,599.44	\$ 1,133,515.68
Colorado Interstate Gas Company										
12	Balance at beginning of period	\$ 2,427,439.72	\$ 2,183,166.45	\$ 1,944,415.88	\$ 1,713,509.14	\$ 1,468,044.93	\$ 1,224,581.89	\$ 981,856.35	\$ 737,682.42	\$ 509,313.34
13	Balance at end of period	2,650,320.58	2,427,439.72	2,183,166.45	1,944,415.88	1,713,509.14	1,468,044.93	1,224,581.89	981,856.35	737,682.42
14	Total	\$ 5,077,820.30	\$ 4,610,606.17	\$ 4,127,582.33	\$ 3,657,925.02	\$ 3,181,554.07	\$ 2,692,626.82	\$ 2,206,438.24	\$ 1,719,538.77	\$ 1,246,995.76
15	Combined (line 11 plus line 14)	\$ 8,409,715.11	\$ 7,587,432.90	\$ 6,800,631.35	\$ 6,034,860.43	\$ 5,347,620.04	\$ 4,658,158.46	\$ 3,867,793.24	\$ 3,114,138.21	\$ 2,380,511.44
16	Average (line 15 divided by 2)	\$ 4,204,857.56	\$ 3,793,716.45	\$ 3,400,315.67	\$ 3,017,430.22	\$ 2,673,810.02	\$ 2,329,079.23	\$ 1,933,896.62	\$ 1,557,069.10	\$ 1,190,255.72

Exhibit No. 185

Subschedule No. 13-A
Sheet 1 of 1

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CANADIAN RIVER GAS COMPANY AND COLORADO INTERSTATE GAS COMPANY
DETAILS OF CERTAIN ITEMS INCLUDED IN COMPUTATION OF RATE OF RETURN, BASED ON ADJUSTED ACCOUNTS

Year Ended December 31												Period Ended
1939	1938	1937	1936	1935	1934	1933	1932	1931	1930	1929		Dec. 31, 1928
(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)		(13)
\$ 9,454,054.44	\$ 9,229,902.71	\$ 8,944,063.25	\$ 8,768,811.93	\$ 8,611,756.24	\$ 8,748,615.66	\$ 8,535,520.15	\$ 8,505,297.34	\$ 8,272,674.20	\$ 7,055,458.56	\$ 7,466,275.02		\$ 7,466,275.02
9,923,329.94	9,454,054.44	9,229,902.71	8,944,063.25	8,768,811.93	8,748,615.66	8,748,615.66	8,535,520.15	8,505,297.34	8,272,674.20	7,055,458.56		7,466,275.02
\$19,377,384.38	\$18,683,957.15	\$18,173,965.96	\$17,712,878.18	\$17,583,571.17	\$17,563,371.90	\$17,284,135.81	\$17,040,817.49	\$16,777,971.54	\$15,328,132.76	\$14,521,733.58		\$14,932,550.04
\$11,537,804.04	\$11,449,488.70	\$11,363,878.10	\$11,350,559.54	\$11,226,617.22	\$11,164,239.99	\$11,190,222.26	\$11,049,499.41	\$ 9,925,263.94	\$ 9,242,467.84	\$ 8,691,281.27		\$ 8,691,281.27
11,526,746.35	11,537,804.04	11,449,488.70	11,363,878.10	11,350,559.54	11,226,617.22	11,164,239.99	11,190,222.26	11,049,499.41	9,925,263.94	9,242,467.84		8,691,281.27
\$23,064,550.39	\$22,987,292.74	\$22,813,366.80	\$22,711,437.64	\$22,577,176.76	\$22,390,857.21	\$22,354,462.25	\$22,239,721.67	\$20,974,763.35	\$19,167,731.78	\$17,933,749.11		\$17,382,562.54
\$42,444,934.77	\$41,671,249.89	\$40,987,332.76	\$40,427,315.82	\$40,160,747.93	\$39,954,229.11	\$39,638,598.06	\$39,280,539.16	\$37,752,734.89	\$34,495,864.54	\$32,455,482.69		\$32,315,112.58
\$21,220,967.39	\$20,835,624.94	\$20,493,666.38	\$20,213,657.91	\$20,080,373.97	\$19,977,114.55	\$19,819,299.03	\$19,640,299.58	\$18,876,367.45	\$17,247,932.27	\$16,227,741.35		\$16,157,556.29
\$ 1,572,294.65	\$ 1,404,532.08	\$ 1,268,516.94	\$ 1,108,418.47	\$ 1,057,647.50	\$ 907,884.14	\$ 753,470.86	\$ 641,128.58	\$ 492,387.10	\$ 355,590.18	\$ 220,997.94		\$ 173,251.42
1,759,600.16	1,572,294.65	1,404,532.08	1,268,516.94	1,108,418.47	1,057,647.50	907,884.14	753,470.86	641,128.58	492,387.10	355,590.18		220,997.94
\$ 3,331,894.81	\$ 2,976,826.73	\$ 2,673,049.02	\$ 2,376,935.41	\$ 2,166,065.97	\$ 1,965,531.64	\$ 1,661,355.00	\$ 1,394,599.44	\$ 1,133,515.68	\$ 847,977.28	\$ 576,588.12		\$ 394,249.36
\$ 2,427,439.72	\$ 2,183,166.45	\$ 1,944,415.88	\$ 1,713,509.14	\$ 1,468,044.93	\$ 1,224,581.89	\$ 981,856.35	\$ 737,682.42	\$ 509,313.34	\$ 292,641.64	\$ 102,557.12		\$ 102,557.12
2,650,380.58	2,427,439.72	2,183,166.45	1,944,415.88	1,713,509.14	1,468,044.93	1,224,581.89	981,856.35	737,682.42	509,313.34	292,641.64		102,557.12
\$ 5,077,820.30	\$ 4,610,606.17	\$ 4,127,582.33	\$ 3,657,925.02	\$ 3,181,554.07	\$ 2,692,626.82	\$ 2,206,438.24	\$ 1,719,538.77	\$ 1,246,395.76	\$ 801,954.98	\$ 395,198.76		\$ 102,557.12
\$ 8,409,715.11	\$ 7,587,432.90	\$ 6,800,631.35	\$ 6,034,860.43	\$ 5,347,620.04	\$ 4,658,158.46	\$ 3,867,793.24	\$ 3,114,138.21	\$ 2,380,511.44	\$ 1,649,932.26	\$ 971,786.88		\$ 496,806.48
\$ 4,204,857.56	\$ 3,773,716.45	\$ 3,400,315.67	\$ 3,017,430.22	\$ 2,673,810.02	\$ 2,329,079.23	\$ 1,933,896.62	\$ 1,557,069.10	\$ 1,190,255.72	\$ 824,966.13	\$ 485,893.44		\$ 248,403.24

A. "This report is a consolidation of figures taken from reports on Canadian River Gas Company and Colorado Interstate Gas Company prepared for the purpose of this proceeding by this Examiner and others, and is presented to show a composite picture of the operations of the two companies. It contains thirteen schedules and one sub-schedule which include a balance sheet as at December 31, 1939; Income and Surplus Accounts for the years 1928 to 1939, inclusive; Operating Expenses for the years 1939, 1938, and 1937; Working Capital based on Operations during the year 1939; and Computation of Rate of Return. Except in the Working Capital Study where the matter was a minor concern, eliminations of intercompany transactions have been effected by means of journal entries. The financial relation and the operating arrangements existing between the two companies makes it imperative to present the operations of these two companies on a consolidated basis if a clear picture of the cost of producing and transmitting natural gas to Denver and other points is to be given.

"Most of the figures used in this report were obtained from the statements and schedules included in the plant, income and surplus, balance sheet, and working capital reports of Canadian River Gas Company and Colorado Interstate Gas Company, and in all cases the figures used represent the amounts as adjusted by the various examiners who have already testified to the individual exhibits of each company.

"The two most important accounting principles which have been followed in the preparation of this report are these:

"(1) All intercompany items have been eliminated from the consolidated statements, in order to show the financial condition, or the results of operations, with respect to outsiders only;

"(2) The accounts to be consolidated have been set up on a comparable basis in order that they may be combined. (In only a few minor instances was it necessary to group or subdivide the adjusted accounts appearing on the statements or schedules of either company in order that the accounts could be combined.)

"Schedule No. 1, entitled 'Consolidated Balance Sheet,

as Adjusted, December 31, 1939', shows the adjusted balance sheet of Canadian River Gas Company in Column No. 2, and that of Colorado Interstate Gas Company in Column No. 3. Column No. 4 represents the total of Columns Nos. 2 and 3. The intercompany receivables and payables are eliminated in Columns Nos. 5 and 6, and the consolidated balance sheet is shown in Column No. 7.

"All elimination entries in this report are in the '500' series, so marked for identification purposes. The two eliminating entries that affect the balance sheet are shown in Schedule No. 2, and are self-explanatory. They are posted directly to the consolidated balance sheet.

"Schedule No. 3 consolidates the top income and surplus accounts, as adjusted, of Canadian River Gas Company and Colorado Interstate Gas Company for the year 1939. The adjusted income and surplus accounts of the respective companies are shown in Columns Nos. 2 and 3. The amounts are totaled in Column No. 4, and the intercompany transactions are eliminated in columns Nos. 5 and 6. The consolidated income and surplus accounts are shown in Column No. 7.

"Schedules Nos. 4 and 5 show information for the years 1938 and 1937, respectively, comparable with that shown on Schedule No. 3 for the year 1939. The three schedules are identical in form and purpose.

"The eliminating entries relating to the consolidated income and surplus accounts for the years 1937, 1938, and 1939 are shown on Schedule No. 6 and are three in number. Entry No. 502 eliminates from the consolidated accounts the gas sales by Canadian River Gas Company to Colorado Interstate Gas Company; Entry No. 503, the interest paid by Canadian River Gas Company to Colorado Interstate Gas Company; and Entry No. 504, the premiums on bonds paid by Canadian River to Colorado Interstate.

"The eliminating entries have no effect on the combined surplus accounts of the two companies. The balance in the consolidated surplus account, as adjusted, at December 31, 1939, is equal to the sum of the balances in the surplus accounts, as adjusted, at December 31, 1939, of each of the two companies (cf. line 44, Sheet 2 of Schedule No. 1).

"The purpose of Schedule No. 7 is to present a compara-

tive summary of the operations, as adjusted, of Canadian River Gas Company and Colorado Interstate Gas Company on a consolidated basis from the commencement of their operations to December 31, 1939, and to show the build-up by years of the consolidated surplus account, as adjusted, at December 31, 1939. The figures for 1939, 1938 and 1937 shown in Columns Nos. 2, 3 and 4, of this schedule are the same as those shown in Column No. 7 of Schedules Nos. 3, 4 and 5, respectively.

The amounts for each of the years prior to 1937 were obtained in the same manner as the amounts for 1937, 1938, and 1939, which have already been explained. That is, the accounts of the two companies, as adjusted, were combined and the intercompany transactions eliminated. The details of the consolidations and the eliminating entries for the years 1936 and prior are not presented in this report.

The purposes of Schedule No. 8, entitled "Consolidation and Allocation of Operating Expenses, As Adjusted, for the Year Ended December 31, 1939", are (1) to present in detail, by type of expenses, consolidated operating expenses, as adjusted, and (2) to allocate general and administrative expenses to the several functions performed by the companies, that is, producing, compressing, transmission other than compressing, and distribution. The total operating expenses shown in Schedule No. 8, amounting to \$1,090,305.56, agree with the amount shown on Schedule No. 3. Details of the bases used in allocating general and administrative expenses are shown on Schedule No. 11.

Schedules Nos. 9 and 10 present the details of the operating expenses for the years 1938 and 1937, respectively, in the same manner that Schedule No. 8 presents them for the year 1939. The three Schedules are identical in form and purpose.

As previously indicated, the purpose of the allocation entries, shown in Schedule No. 11, is to present, for the years 1937, 1938 and 1939 the total costs of producing, transmitting and distributing gas. This treatment was necessitated by the fact that the two companies handle certain general expenses in different manners. That is, certain general expenses of Canadian River Gas Company are allocated to the functional divisions on the books, while in the case of

Colorado Interstate Gas Company all general expenses are classified as such on the books. Therefore, the allocating entries also have the effect of stating the operating expenses of the two companies on a comparable basis. The various bases used in allocating the general expenses are shown in the text or explanation following each entry. In general, the bases are the same that were used in the working capital computations for the respective companies, which have been presented as evidence in this proceeding.

"The allocating entries are merely transfers within the caption 'Operating Expenses,' and do not change the total.

"In Schedule No. 12 the working capital requirements of Canadian River Gas Company and Colorado Interstate Gas Company have been combined, and the result is shown as the consolidated working capital. There were no eliminations, since no allowance was made in working capital of Colorado Interstate Gas Company for purchased gas. However, if the consolidated working capital were computed based on the consolidated operations, in a manner similar to the working capital exhibits of the individual companies which have previously been presented as evidence in this proceeding, the result would be approximately \$1,900 less than the \$259,803.36 shown on Schedule No. 12. This decrease would result from the fact that the lag in the receipt of consolidated revenues would be 1.98 days less than the lag in the receipt of Canadian River revenues so that the allowance to pay gas well royalties could consequently be reduced 1.98/365ths of the annual amount of gas well royalties (cf. Canadian River Gas Company working capital requirements study, Sheet 1 thereof.)

"Schedule No. 13 contains computations of the rate of return earned by Canadian River Gas Company and Colorado Interstate Gas Company on a consolidated basis, for each year of operations, and the weighted average rate of return for the entire period of operations. All computations are based on the adjusted plant, reserve, and income accounts of the two companies combined.

"Subschedule No. 13-A is merely a work sheet containing computations and cross references in support of certain figures appearing on Schedule No. 13."

(Vol. LIV, pp. 7496-7502.)

Q. Mr. Smith, what is the reason for consolidating both capital and income accounts of these two companies, that is, Canadian River Gas Company and Colorado Interstate Gas Company?

A. Speaking first of the income accounts, I think that the consolidated income account gives a better picture of the operations of the project which is operated essentially as one project, and if we are going to get a clear concise picture of the cost of producing and transmitting gas to Denver and any other points that the Commission might be interested in, I think the consolidated income statement is of great convenience in that respect.

Q. You are aware of the fact that Canadian River Gas Company has filed contracts with the Federal Power Commission covering the sale of gas to the Colorado Interstate Gas Company?

A. Well, I am not entirely familiar with the act of filing. I do know that that contract is in existence and is in evidence in this case.

Q. Well, are you unaware of the fact that Canadian River Gas Company has filed its contracts that cover the sale of gas in interstate commerce for resale with the Federal Power Commission as a separate company distinct from and apart from Colorado Interstate Gas Company's filings of the contracts under which it sells gas?

A. I realize that there are two separate entities and also that each company has its contracts and that they have been filed. I think that I am familiar with all those facts.

Q. The investigation which the Commission is making involves the prices charged by Canadian River Gas Company, does it not, as well as prices charged by Colorado Interstate Gas Company?

A. This general investigation, Docket G-124, as I understand it is just as it states on the title page of this exhibit. It is the order of investigation directed into and concerning all rates, charges, classifications, rules, regulations, practices and contracts of the three companies, the three respondents.

Q. And that would mean, wouldn't it, an investigation that should determine the reasonableness of the prices which each company charges?

A. Well, I don't know that I would be able to draw a conclusion as to that.

Q. Well, let's assume that the Commission will determine the reasonableness of the price which Canadian River charges Colorado Interstate Gas Company for gas where it is sold for the Denver line at Clayton and would in the event it found that the existing price charged was unreasonable, fix a price which Canadian River should charge.

This consolidated statement does not give information that would determine what that price should be, does it?

A. Only as it sets forth, of course, the figures for each company and then consolidates them. There is no absence of that information in the consolidation so far as I can see.

Q. You show, for example, on your consolidated income account for 1939 which is Schedule 3, Sheet 1, gross income in Column 7, which is I take it the combined gross income of the two companies with the amounts paid by Colorado Interstate to Canadian River eliminated?

A. That is true. Before I get to Column 7, I have set forth in Columns 2, 3 and also in 4 and 5 and 6 the details of how I get the Column 7, so there is no absence of information pertaining to the separate companies.

Q. Well, that information, of course, is already in evidence in other exhibits, is that correct?

A. That is correct.

Q. So that the only reason you have set that information here separately is to indicate how you have made the consolidation of the two companies?

A. So far as Schedule No. 3 is concerned, that is true.

Q. There is no purpose in having this exhibit merely to restate the separate information with respect to Canadian River Gas Company and Colorado Interstate Gas Company, because that is already contained in the other exhibits?

A. So far as the individual companies are concerned, I believe everything is in the separate exhibits except the allocation of general expenses to functional division.

Q. So if you take the consolidated figures you have, that really treats the thing as to Colorado Interstate. We are collecting all revenue—or, rather, a combined company—we are collecting all of the revenue and paying its expenses and then having a net income?

A. Yes. Well, as far as the operations are concerned, that is almost the situation.

Q. Well, that isn't true with respect to the dollars there, Mr. Smith. They don't combine the dollars that way.

A. No. There are two corporate entities so far as— with regard—from an operating standpoint and from the standpoint of looking at it as a rate payer here in Denver might look at it, the two separate corporate entities are somewhat artificial and not essential.

Q. Well, Mr. Spencer would violently disagree with you on that, but what I am getting at is this: that for the purpose of determining the reasonableness of rates which Colorado Interstate charged, you couldn't take this consolidated statement and from those consolidated figures, both income and plant accounts, get information that relates solely to Colorado Interstate?

A. Well, you could do this, though: you could use this consolidation as a means of setting a rate. I believe that you could use it; that is, as a basis for setting the rate at the city gate in Denver and then if it were necessary to set rates between the two parties to the project, then that would be a separate operation.

Q. Well, you are starting at the end where the sales were made in that method, and you could do the same thing if you set a rate for Canadian River which it should charge Colorado Interstate and then on the basis of that rate for gas purchased as one of the items of operating expenses determine how much Colorado Interstate Gas Company should charge. Isn't that the logical way in which it really would be done?

A. Well, it is not necessarily the more logical way. I think it could be done that way. I think that this type of statement give a controlling account for the whole picture, the whole situation, and I believe that it is easier to present the picture at the Denver gate. It would be less confusing to any reviewing body to be dealing with these consolidated figures because that is the objective, confining ourselves to the Denver gate alone. That is the objective as I see it.

Q. Well, the same thing might be said of the city gateway to Cheyenne, couldn't it?

A. So far as Docket G-121, I believe it is.

Q. Well, G-124 includes all of these companies, doesn't it?

A. The order of investigation did, that's correct.

Q. G124, and that is primarily the one we are discussing, you could do the same thing there, determine what the city gate at Cheyenne should be and then work back?

A. That would be possible and if we didn't know that

we were particularly interested in an intermediate point, a consolidation carrying the thing through to the Cheyenne gate might be very feasible.

Q. The basis of the statement of income accounts of course disregards the terms of the contracts between the Colorado Interstate Gas Company and Canadian River Gas Company, doesn't it?

A. I am not so sure that it does.

Q. Well, you have not followed the contract terms in arriving at the various operating expenses of Canadian River Gas Company?

A. No, as an accountant I couldn't possibly be bound by any provision set up in a contract to tell me that something is operating expense when it is not operating expense.

Q. You have, so far as revenues are concerned, taken for Canadian River Gas Company the dollars which it actually receives for its gas, with certain adjustments?

A. That's right. The revenues of Canadian River Gas Company were an accomplished fact and of course an inter-company elimination is made in this study, and they were taken exactly as shown in Mr. McKinstry's exhibit on the income accounts of Canadian River Gas Company.

Q. But your operating revenue deductions were built up by Mr. McKinstry himself and aren't taken from the company's books as showing the cost of delivering this gas—that is, in total, I mean?

A. Well, he did this: He started with the company's books with respect to any of its costs which were properly classifiable as operating revenue deductions under a proper accounting method and then he made certain reclassifications and adjustments and came to an adjusted picture showing the operating revenue deductions which the Commission's accounting staff thought were the correct items to reflect the true cost of gas.

Q. Now, all of those figures that you have in Column 2, for example, on Schedule 3 and corresponding columns showing the income and surplus accounts are based entirely upon and taken bodily from Mr. McKinstry's exhibit?

A. That is correct.

Q. And the same thing is true with those figures with

respect to Colorado Interstate Gas Company on these sheets that show income account, those were from Mr. Early's exhibit?

A. That is correct.

Q. And dependent entirely upon the validity and correctness of those two exhibits?

A. So far as this study is concerned, putting it another way, if those figures would have been different, these figures would be different.

Q. And all you have really done here is combined them and eliminated intercompany payments generally in order to get at the consolidated overall picture?

A. With respect to that sheet, that is correct.

Q. Now, there would be a question of determining whatever rate might be fixed for the consolidated picture based on the revenues and expenses as you have shown them consolidated, in dividing that between Canadian River Gas Company and Colorado Interstate Gas Company, wouldn't there; that is, you would have to determine other than the consolidated figures where this profit you show is being made?

A. I thought when you started out you were speaking of setting a rate.

Q. Yes. Well, you fix your rate on the basis of the consolidated figures, then, when you divide it up, you would have to do that with respect to the property accounts and the operating expense items with respect to the two companies.

A. If it is necessary to set a rate as between Canadian River Gas Company and Colorado Interstate Gas Company, and assuming that the question of rate was settled, say at the city gate at Denver, then the matter of setting the rate as between Canadian River Gas Company and Colorado Interstate Gas Company would necessarily be a separate operation.

Q. And you know that Canadian River Gas Company does sell gas to the Amarillo Oil Company which is not involved entirely in this proceeding?

A. I know that there is the sale of gas and the extent to which it is involved or related to this proceeding, I am not exactly certain as to the ultimate legal status of that

question. I do know that Amarillo Oil Company was not subject to an investigation.

Q. That's what I mean, and you have, however, those figures in here.

A. Oh, the costs that relate to the gas which is ultimately sold in Amarillo are included in the figures as well as the Chicago line sales.

Q. As well as the operating revenues?

A. Correct.

Q. And that is why you get for the consolidated picture a greater dollar figure for revenue than you show for Colorado Interstate?

A. Yes, that is the primary reason.

Q. So the consolidated operating revenue figure in Column 7 is not the gross income of Colorado Interstate Gas Company from the sale of gas from its pipe line and sale to Chicago, but represents some money that it does not receive?

A. That is correct. Of course, I think that following that situation through that it has been dealt with in Mr. Lyon's exhibit.

Q. Yes, he did show revenues, I believe, didn't he, in his exhibit?

A. He compared revenues with cost all the way through.

Q. Now, with respect to your plant accounts, that is, your balance sheets which contain utility plant, again those figures which are shown under the Canadian River Gas Company column, Column 2 on Schedule 1, Sheet A, and the figures shown under Column 3 for Colorado Interstate Gas Company have been taken bodily from Mr. Luttring's Exhibit for Canadian River Gas Company and Mr. Schutte's exhibit for Colorado Interstate Gas Company?

A. Are you referring now only to plant?

Q. Yes. That is the first five items there—or the first four items.

A. I believe those will tie in with the summaries on those exhibits you referred to, and I might state that these figures were taken more directly from Mr. McKinstry's exhibit on the balance sheet for Canadian River Gas Company and Mr. Early's exhibit on the balance sheet for Colorado Interstate Gas Company.

Q. Did not those exhibits, then, take with respect to

utility plant, the totals shown on Mr. Luttring's and Mr. Schutte's exhibits?

A. I believe that is correct.

Q. But directly you took these from the balance sheet exhibits?

A. That is correct.

Q. And again that is true all the way down, that any change in those exhibits for any reason would require a corresponding change here?

A. That is correct.

Q. Whatever eliminations have been made, either in the balance sheet exhibits or in the original cost of the property exhibits, of course, are still reflected in your figures in this exhibit 185.

A. Are you speaking of their adjusting entries, eliminating certain items from plant account or earmarking them?

Q. Yes, that's right.

A. Yes, those are all given effect in these consolidated statements.

Q. Now, in your spread of certain overheads which I think you have got starting on Schedule 8, you have made certain allocations as between the different operating divisions of the company.

A. Yes.

Q. General expense.

A. The only purpose there was to assign the general expenses on some equitable basis to the functional groups.

Q. But, however, when carried to your income statements such as, for example, Schedule 3 which is for 1939, that is again all lumped together in operating revenue deductions?

A. Take Schedule 3, Page 4, Line 3 there reflects the operating expenses which is in turn supported as to detail by Schedule No. 8 and any allocation of general expenses between functional groups in Schedule No. 8 would not affect the total carried forward to Schedule No. 3 for either company in one way or another.

Q. Well, what use have you made of these distribution—or allocation of your general expense?

A. Well, the use that I have made of them at this point is not to carry them any further than to assign them to functional groups. Now, I believe that when Mr. Lyon made his allocation of cost of service that he accepted allocations

of general expense which I had made and carried them forward in his study.

Q. Now, what is your basis of allocation as a general expense—of general expense?

A. On Page 21 the allocation of general expenses is shown in journal entries. Entry No. 505 deals with the Colorado Interstate Gas Company, and Entry 506 also deals with the Colorado Interstate Gas Company. In Entry 505, we take the accounts indicated in the tabulation following the explanation of the entry and those are allocated to functional groups on the basis of total payroll charges appearing in the operation and maintenance expenses in such functional group. Those items which are allocated on the basis of total payroll charges are shown to be injuries and damages, absent time due to illness, and employees' welfare, which includes their pension scheme.

And now Entry 506 deals with the remainder of the general administrative expenses of Colorado Interstate Gas Company and those are simply allocated on a dollar basis. Of course, these all relate back to Mr. Early's adjusted figures, of in his income account for Colorado Interstate Gas Company; then on the following page, Page 22, the total general and administrative expenses of Canadian River Gas Company are allocated on the basis of total direct charges; that is, on a dollar basis to each functional group, after making the adjustment for allocation purposes only indicated at the end of the explanation. That is, in making this allocation we have treated with the direct charges in the functional groups after adding back residuals produced credit and deducting the residuals operating expense applicable to the Fritch station and also deducting lease and operating expenses paid to the Texoma Natural Gas Company for leased facilities of the Chicago line.

Q. In doing that on a dollar basis, is that on the theory that the time spent by the employees and officials who were engaged in the general administrative group is fairly relative to the dollars of the direct expense of each of the functional groups?

A. Well, it is hard to narrow it down to any limitation of that sort. I don't know, and I don't know whether anybody else would know whether time was the basic factor.

My only purpose was to come to some allocation that would be reasonably equitable.

Q. Well, is it ever the practice to use time as the basis of distributing this general administrative expense between the functional groups?

A. I understand that time—rather meticulous time records are kept by some companies for the allocation of their general and overhead expenses, or at least if the time records are kept, that time estimates are not made currently. I suppose that more particularly ties into the subject of allocating a part of those expenses to construction where the companies elect to do that and have quite a lot of construction going on all the time.

If time records are available, of course it is a method of allocation that is rather difficult to impeach.

Q. But in the absence of that, it is customary in allocating these general expenses to the functional groups to do just as you have done; that is, take the same ratio that the direct expenses are.

A. That is an acceptable method as long as the result does not appear to be inequitable and knowing that the operations of the Canadian River Gas Company were largely almost wholly, you might say, production, and knowing that the operations of the Colorado Interstate Gas Company are almost wholly transmission, the results obtained would seem to indicate that the basis I chose was reasonable and equitable and that is about all I was interested in.

Q. Now, will you turn to Sheet 13—or Schedule 13, which is on Page 24, the first line which is the average balance of gas plant in service taken from the next Page 25. Those dollars I take it are all from the exhibits either of Mr. Luttring or Mr. Schutte?

A. That is true. I might add that the adjustments made by them had to be applied back to book balances of previous years in order to get the yearly figures which I have used here. Mr. Luttring and Mr. Schutte don't show yearly adjusted figures. They merely show the adjusted figures at the end of 1939.

Q. And did you spread those back into different years?

A. Well, back to the year that we felt that the adjustment applied to so that our cumulative balance at the end

of each year would be an adjusted balance for each year and would still come to our adjusted total on Dec. 31, 1939.

Q. How are you able to determine the year in which the adjustments should be made?

A. Well, they were related primarily to the year that the entries were put on the books, that we made adjustments of—or, rather, that Mr. Luttring, Mr. Teel and Mr. Schutte made the adjustments for.

Q. Now, the figures with respect to Colorado Interstate Gas Company and Canadian River Gas Company both, then, on Sheet 25, with the exception of the adjustment back to previous years, represent, then, the information contained in the exhibits of Mr. Luttring and Mr. Schutte and are not original figures which you prepared?

A. That is true, through Line 8.

Q. And I suppose for 1939, those figures would be identical since the adjustments are all carried into that year?

A. Yes. They should be identical. That is the balance at the end of the period for 1939.

Q. Now with respect to Lines 9 and 10, that is, the depreciation and depletion accruals, from what source are those figures?

A. Well, those figures are from accounting exhibits on the subject of annual and accrued depreciation and depletion which were sponsored by Mr. Luttring and myself in the case of Canadian River Gas Company and by myself in the case of Colorado Interstate Gas Company.

Q. And the figures that you have here, then, in Lines 9 and 10, then, again, depend upon the validity of correctness of the depreciation and depletion accruals and reserves as contained in those exhibits you just mentioned?

A. Yes, it is just a process of carrying forward, so far as this particular schedule is concerned.

Q. And as I recall it, those depreciation and depletion exhibits were based on Mr. Hill's exhibit on his service lives which he introduced in this case?

A. With respect to depreciation, they were.

Q. And the depletion figures, those were based on the life of the field, or rather testimony given by Mr. Hammer?

A. Yes. The total recoverable reserves of the Canadian River acreage were used as a basis for these depletion fig-

res and that was set forth in one of Mr. Hammer's exhibits.

Q. Well, the depreciation, or service lives; I should say, of Mr. Hill I think were based in part on Mr. Hammer's estimates of the life of the field?

A. Well, the record will speak for itself in that respect.

Q. So that at any rate the figures you have here all go back to Messrs. Hill and Hammer for the maintenance of them.

A. They go back to them in part.

Q. In what part do they not go back?

A. Well, as to the base.

Q. I meant—I'm sorry, I meant Lines 9 and 10, depreciation.

A. It still stands.

Q. I see what you mean.

A. All that Mr. Hill furnished me was the service lives estimate, and the rest of it was accounting work.

Q. That is, you took the average balance of the plant accounts as the base and computed your depreciation by applying percentages that result from Mr. Hill's exhibit?

A. That is correct.

Q. So that the reserve figures as shown here depend on Mr. Hammer and Mr. Hill and the plant account exhibits of Messrs. Lutiring and Schutte?

A. That is true, I believe.

Q. Now, then, I observe here, Mr. Smith, that in making the accruals of depreciation that the total in the reserve for depreciation and depletion both at the end of 1939 apparently is a lesser amount than the additions to plant from the beginning up to 1939, is that correct?

A. You are comparing now on Line 15 of Column 2 the figure of \$8,409,715.11 with—that is the combined depreciation depletion reserve. Well, now, the combined—

Q. Well, your average is—well, where I was getting my figures from was Sheet 24 where you show your depreciation, and it is also on Sheet 25, Line 16; that is, the average depreciation.

A. Yes, that is the average for the year 1939.

Q. And that is applied as against the amount in Line 8, that amount 21,220,967. I think you can see what I have in mind on Sheet 24 where in Column 4 you have deducted

the reserve from the adjusted plant account and you come out to a net average investment, as you call it, of \$17,016,109, and what I was pointing out was that that was a greater amount than the initial plant account which you show in Column 15 on Sheet 24.

A. Yes. The net average investment for the year 1939 is greater than that investment for 1928.

Q. So that on the basis of recovering through depreciation, depletion and amortization, the two companies combined have a greater number of dollars at the end of 1939 on the reserves for the remaining life of the field than they had at the beginning of their business in 1928, even after giving effect to your depreciation reserves?

A. It looks as though their combined plant account has increased about 5 million dollars between 1928 and 1939—that is, the original cost of plant.

Q. As adjusted?

A. That's correct.

Q. Now, on Sheet 24 you have deducted each year the accrued depreciation. Is there anything in the Federal Power Commission Code of Accounts to provide for doing that?

A. I think indirectly there is, yes.

Q. Does it provide that you set it up in your balance sheet that way?

A. The Code of Accounts for convenience includes all reserves under the general caption of liabilities and other credits. Of course the reserves come into—they are one of the other credits and that is a matter of convenience.

It would be entirely proper to set up the balance sheet for a natural gas company and deduct the depreciation and depletion reserve from the gas plant section.

Q. That is, you would put it—you would make a deduction under the asset side under the plan and then show a net book cost or net book investment?

A. Yes, I think that would be a satisfactory caption.

Q. But the Code actually doesn't provide for making that subtraction in showing your balance sheet as you have done here on Page 24?

A. It doesn't spell it out but it doesn't prohibit it!

Q. I am confused many times as to what we have to

follow and what we don't have to follow, but it is certainly Pages 14 and 15 setting up your balance sheet that shows the heading of "Reserve" under Roman Numeral XI as the total of all of these reserve accounts that go ther?

A. That is correct.

Q. In substance, however, what you have done on this Sheet 24 is to state it in the balance sheet as though you had deducted reserves on utility plant. Is that the result of what is defined in the definition of the Federal Power Commission Code No. 24, Page 4, as net book cost where it says, "When applied to gas plant it means the book cost less related depreciation, amortization, and depletion reserves?"

A. Of course I haven't come to net book cost, if you want to take my gas plant in service as adjusted book cost—

Q. That is what you have all through here; that is, your figures are all adjusted book cost figures, aren't they?

A. Yes, but if you go back to the definition of book cost it would have to be with a slight limitation. Calling it adjusted book cost is just a matter of words.

Q. That would be net book cost if you would be keeping the books or as the accounts have been revised or books revised by you and the other Examiners.

A. I believe that is correct.

Q. Of course these are not the book cost figures as carried by the two companies on their books?

A. No. That is the point I was making a while ago, that I have used our adjusted figures.

Q. Now, Sheet 24 is substantially a balance sheet that would show the plant account less reserve and then the income which again is adjusted income as set forth on Line 8.

A. The net utility income is set forth on line 6.

Q. That is as adjusted by the examiners that had to do with the income exhibits?

A. Yes, sir, and it is carried through to this consolidated exhibit.

Q. But it contains all of the adjustments and eliminations that were made, recomputation of the depreciation and depletion and all of the various factors that are involved in the various accounting exhibits offered by your examiners?

A. That is correct.

Q. Then, you simply made a percentage computation

there which shows that on the basis of these figures as adjusted for net income that such adjustment of that utility income is a certain percentage of the net adjusted book cost as worked out in these accounting exhibits?

A. Yes, plus working capital.

Q. This in no way changes the actual dollars which the company has collected from their bills and had in their till after they collected it?

A. Well, I don't know. My assumption is that the revenue for those years is water over the dam, but I don't know.

Q. Yes, that is right. It is not your intention, is it, to imply by reason of this exhibit any retroactive rule with respect to the past revenues? That isn't your understanding?

A. That would in the final analysis be a matter of the Commission's policy and its responsibility under the Natural Gas Act. It is a legal matter. All I am attempting to do here is essentially the work of a historian showing what has happened in the past.

Q. The reflection of these percentages you have would not be reflected on the company's books as they were kept?

A. I take it you mean if we took the plant account per their books and income per their books we would come to a different percentage?

Q. Precisely.

A. I think follows from the fact that we just stated a moment ago that all of the Federal Power Commission accounting adjustments had been given effect herein.

Q. So that these percentages are really computed percentages on the basis of the plant accounts and income accounts and other accounts as finally adjusted by the various examiners?

A. That is correct. It is the intention to show the relationship of the income on the basis of the Commission's accountant's findings as related to the investment in plant as found by the Commission's accountants.

Q. In your role as a historian you of course not only went back and recorded history as you found it but as you thought it should have been?

A. Well, I don't know. I think I recorded it as I found it.

Q. Certainly not as it is found on the books.

A. I think the history was on the books. It was just according to the way you used the figures on the books.

Q. You decided to eliminate certain historical incidents so that your history has been arrived at by throwing out certain events and making certain adjustments in others?

A. I think it goes back to that word "legitimate" that has been used so much, which we might say also means "proper" in this respect. We related what we considered to be the proper investment in original cost of plant plus working capital to the proper operating income or utility income for these periods.

Q. It is the history as you think it should have been rather than as it was actually recorded on the company's books and applied by them?

A. I wouldn't want to put it just that way. I think this history as we have it here had to be reflected in the history of the company. We haven't picked anything out of thin air. As I have said, what we considered to be the legitimate investment of the plant or the proper investment in the plant, we have taken that and related it to what we considered to be the proper utility income that the company enjoyed during that period. I don't mean to imply that would necessarily be the proper income under regulation because I am not conceding that the revenue would be the proper revenue, but I mean more particularly with reference to the expenses as related to the revenue which it actually did receive.

Q. What I had in mind was this, Mr. Smith: You found on the company's books certain accruals for depreciation and depletion which I assume is the historical fact as recorded by the company, and then you revised that on the basis of what you think on present information the effect that depreciation and depletion has. That is the point I am trying to get at. You didn't take the history as you found it but you rewrote it and reconstructed.

A. With respect to depletion and depreciation we have restated the companies accounting for those items.

(Vol. LXXXVII, pp. 13181-13206.)

Further Testimony of the Company's WITNESS, LUSK.

Q. Under the terms of which particularly Paragraph or Section 10, you have arrived at these cost figures that appear in Exhibit 164 and you have related them to resale only in Exhibit 167?

A. That is correct.

Q. But in so far as the Canadian River Gas Company is concerned, it doesn't now nor has it in the past endeavored to limit its sales to resale gas only, has it?

A. No, sir there is no distinction of gas sales in the Canadian River Gas Company and has not been any since the company commenced operation.

Q. Nor is there any contemplated as far as you know?

A. As far as I know, no.

(Vol. XLVI, p. 6371.)

Further Testimony of the Company's WITNESS, RHODES.

Q. As I understand it, your firm, Ford, Bacon & Davis, Inc., in 1928, in designing this line designed it for this dual load, both the domestic and industrial consumers, and the retail consumers?

A. That is correct.

Q. At that time did you make any study as to the possibility of constructing a line and the cost of constructing a line just to serve the resale customers?

A. No. At that time we did not make such a study.

(Vol. XXII, p. 3164.)

Q. You wouldn't want to recommend at this hearing here at this time without additional study that a 12-inch line would take care of this industrial load, would you?

A. No, I wouldn't be willing to recommend any size of line without a very considerable study and probably my indications at the present time would be not to build a line, if that is all the business you had.

The Trial Examiner: The first of that is true, isn't it, Mr. Rhodes? You wouldn't build a line for the sole purpose of serving resale customers; that is, the average re-

sale customer, we'll say, that has a large domestic load and a very few industrial customers?

The Witness: Well, that isn't so clear, because the total volume of business is enough so that you can get the advantage of the big increase in capacity with a small increase in pipe diameter. You see, roughly speaking, it would only cost about 50 per cent more for a 20-inch system than for a 12-inch system, and it will carry two to three times as much load.

The Trial Examiner: Yes, but what I mean is: If you were to connect no industrial customers at all, you would give it considerable study before you would construct a pipe line such as this pipe line?

The Witness: It is very difficult to justify any long pipe line purely for domestic consumers. You don't get enough use out of the capacity that you have to provide. Ordinarily, you wouldn't get on the average more than 25 or 30 per cent use of that capacity which makes it difficult to justify it.

The Trial Examiner: You may proceed, Mr. March.

By Mr. March:

Q. Mr. Rhodes, you have both industrial consumers and domestic consumers on your resale load; do you not?

A. Yes.

(Vol. XXIII, pp. 3214-3215.)

Now, I know that we have discussed the suction pressure to a limited extent heretofore, but I want to know how you arrived at your conclusion that by 1943 the suction pressures would reach 150 pounds.

A. It is purely a matter of judgment in watching the way gas fields have been operated, that it would be necessary to have that pressure pulled down to about 150 pounds in the near future to make it easily possible to handle the gas field. I reached that conclusion myself and later talked it over with Max Watson and found that he had reached the identical conclusion at almost the same identical time. It is a matter of having enough difference in pressure between your station and your operating wells to have a con-

venient means of controlling and dispatching the variations in your load.

Q. If your suction pressure is going to be 150 pounds by 1943, what would be your well pressures?

A. I don't know.

Q. You didn't give that any consideration?

A. No.

Q. That has nothing to do, then, with the declining pressures of the field?

A. Only indirectly.

Q. Well, how, indirectly?

A. Well, as the field pressures go down, naturally the pressure at the compressor stations go down, but I have found it in my experience in watching the behavior of certain other fields with big wells in it, like this field, that it is rather difficult to maintain such pressures of very much over a third of the well pressures and still have the ability to control properly the delivery of gas into the pipe lines.

Now, this 150 pounds which I have taken here is considerably over a third of the virgin pressure of the wells.

Q. What field have you got in mind?

A. I had in mind the Monroe gas field in Louisiana which is a field very similar to this in that it has large wells of 15 or 20 million feet a day, and also the Richland gas field which is near the Monroe gas field and has since been exhausted. In the case of those fields, at the present time with the average well pressures probably—oh, four or five hundred pounds, the compressor stations are running with suction pressures of a hundred pounds or less.

Q. The well pressures are over 400 pounds and the suction pressure less than 100 pounds?

A. Yes.

Q. What has been your experience in observing pressures in the Panhandle field?

A. What?

Q. What has been your experience and your observations in the Panhandle field, the relation between the well pressures and the suction pressure?

A. I haven't made any particular study of that, except as I say, I reached certain conclusions that Mr. Watson completely confirmed when I talked with him about it.

Q. In other words, you are not familiar with the behaviors of the pressures in the Panhandle field?

A. I haven't studied them in detail. I have been familiar with the Panhandle field for more than ten years, but I haven't been operating in the field.

Q. Do you know what the present suction pressure is at the Bivins station?

A. Oh, it varies. I think they are able to keep it up to pretty close to 250 pounds right now.

Q. Do you know what the present average well pressures are, approximately?

A. Whose well pressures?

Q. The present average well pressures in the Panhandle acreage—I mean, the Canadian River acreage in the Panhandle field.

A. Something over 350 pounds.

(Vol. XXIII, pp. 3216-3219.)

35. Colorado Interstate's Method of Apportioning Costs of Producing, Gathering and Transmitting the Gas Between Resale Gas and Direct Sale Gas on the Basis of Priority Use of Facilities, Which Method Is Alternative to the Determination of Such Respective Costs by Comparing Costs for All Gas with Costs Applicable to a Resale Line Only.

The evidence so far abstracted shows, as the Company contends, the relative cost of resale gas and direct sale gas by comparing the cost of all gas with the cost applicable to a line for resale gas only. Such method was employed by the Company, first, on the basis of contracts, and then on a regulatory basis. In Title 29 supra, there was abstracted evidence contained in Exhibits 170 and 170-B which showed operating costs, plus amount required for a return (8%) on the property, and without regard to amortization or depreciation for all gas under present contracts. In Title 30 supra, there was abstracted Exhibits 172 and 172-A, which showed such costs, as contended by the Company for resale gas only. The following comparison of such evidence for the year 1939 will show the apparent increment cost as contended by the Company of a return required for direct sale gas, as follows:

All gas—Exhibit 170—Title 29 supra.....\$3,350,076 .

Resale gas only—Exhibit 172—

Title 30 supra..... 2,740,141

Apparent cost of and return required

for direct sale gas..... 609,935 .

From the evidence abstracted supra under Titles 33 and 34, a similar comparison is made for 1939 on a regulatory basis:

All gas—Exhibit 285—Title 33 supra.....\$3,885,991

Resale gas only—Exhibit 286—

Title 34 supra..... 3,266,547

Apparent cost of direct sale gas..... 619,444

The Company's witness Lusk states in his Exhibits 319 and 320, abstracted hereinafter, these two figures of \$609,935 on a contract basis, and \$619,444 on a regulatory basis, represent the "measure of the increment costs involved in the sale of direct gas over and above the base costs * * * occasioned in delivery of the resale gas which, except as to resale special industrial gas, has a prior right to the use of the facilities of the Denver Line." (p. 3, Ex. 319, p. 4, Ex. 320.)

Under the present title we now abstract a method of apportioning costs submitted by the Company, and alternative to the foregoing, and also based to an extent, on priority or preference in the use of facilities by the resale gas over the direct sale gas. This was presented by the witness Rhodes in Exhibit 316 (Vol. CII, p. 15881). This witness who, as the evidence already abstracted shows, checked the design of this line before it was built, stated:

"In this exhibit the Denver Line is treated in its entirety from Bivins Station to Denver and the classification of gas transported through the line in interstate commerce is based upon the sales made from the line. Two general classes of customers are served: (A). The first class consists of customers who purchase gas for resale, these being:

Clayton Gas Company

Pueblo Gas and Fuel Company

Citizens Utilities Company

Arkansas Valley Natural Gas Company

City of Colorado Springs

Colorado Wyoming Gas Company

Public Service Company of Colorado

"B: The second class consists of industrial customers who buy gas for industrial use and consumption and not for resale.

"Gas sold to the first class is referred to as resale gas and gas sold to the second class as direct sale gas.

"Certain facilities are devoted exclusively to the sale of resale gas and certain facilities exclusively to the sale of direct sale gas. By far the greater part of the property is used in the delivery of gas to both classes. This exhibit develops a method by which there can be allocated to each class of business that part of the total costs fairly representing the share which each class of business should bear.

"Resale gas is the primary business of the Denver line. During peak loads this gas is supplied principally for resale to domestic and small industrial consumers, which constitutes the firm resale load of the line. They have the first call on all the gas in the line. Direct sale gas is the secondary business of the Denver line. This gas is for large industrial consumers served directly by Colorado Interstate. A large part of their requirements can be supplied by other fuels on short notice. The direct sale gas uses available spare capacity of the line when, as and if it is not needed by the resale gas. The same applies to resale gas for large industrial customers. It is appropriate that the firm resale gas with its dominant priority in the line should bear the base of underlying costs and that the direct sale gas and resale special industrial gas should bear the added or increment costs necessary to its supply.

"This exhibit describes methods of apportionment which are closely related to the sources and causes of costs and under which the direct sale gas and resale special industrial gas bear not only their own increment costs but also a fair portion of the base costs of the system that otherwise would have to be borne by the firm resale gas alone.

"This exhibit also develops methods for apportioning to the resale gas from the Denver line, the appropriate part of the producing and gathering facilities of Canadian River Gas Company.

"The apportionment of costs in the gas business as between various classes of gas is best arrived at by a consideration of those causes which primarily affect the costs. Furthermore, the type of apportionment ratios to be used depends on the equality or non-equality in priority of the several classes of business.

"The causes which affect costs in the gas business are either directly or indirectly related to rates of delivery. Those costs which are controlled by maximum rates of delivery are appropriately apportioned on ratios determined from such maximum rates, whether they be maximum monthly rates, maximum daily rates or maximum daily obligations to deliver gas to the respective classes of business. Only those costs which are controlled by annual rates of delivery are appropriately apportioned on ratios determined from such annual volumes of gas required by the respective classes of business.

"When two or more classes of business have equal rights at all times to a full and uninterrupted supply of gas from the pipe line then they have equal priority rights. If the available supply of gas from the pipe line is deficient for any cause then the supply to each of the classes of gas is curtailed in like proportion. Each class of gas having equal priority should share costs pro rata.

"When one class of business, however, has the first call on the available supply of gas from the pipe line and the other class of gas can take only that which is

left, then that class of gas with the first call has a primary right or priority. In the event of shortage of gas, those classes of gas with inferior rights must, if necessary, suffer a complete interruption of service in assuring a full supply of gas to that class with the primary right. As between classes of gas with different priorities, ratios based on increment costs, namely, increment ratios, are appropriately used. In such a case the base or foundation costs are appropriately charged to the primary business and the remainder to the secondary business." (Exhibit 316, pp. 1 to 4.)

This method of apportionment is based on a consideration of the priority or preference that the resale gas has over the direct sale gas in the use of the facilities, and also upon the consideration of the "peak load" obligations, as the Company contends.

The company's evidence of this priority or preference has been fully abstracted under Title 12 supra, "Preferential Service To Domestic Consumers Over Industrial Consumers." The evidence as to "peak load" obligations has also been abstracted under Title 16 supra, "Peak Load Obligations And Line Capacity Of The Denver Line As Found Through The Winter 1939-1940, And As Estimated Through 1947, And Estimated Necessary Additional Facilities."

The witness Rhodes in this Exhibit 316 applies his method of apportionment to each class of property of both Canadian and Colorado Interstate.

As to Colorado Interstate's property, he first develops the apportionment percentages applicable to the transmission line. He takes the section of the 22 inch main trunk line north from Clayton Junction to Arkansas Valley Lateral Junction, and studies the load thereon in the month of January, during which month it was loaded to the limit of its capacity, as then developed. Rhodes states:

"* * * The manner of its use in handling resale gas and direct sale gas during that month must be taken into consideration in arriving at a fair apportionment of costs." (Exhibit 316, p. 10.)

He employs the same methods and principles as developed in his study of peak load obligations and line capacity

as shown in Exhibit 66, abstracted in Title 15 supra, but points out that the data pertaining to that particular section of the main line in general are slightly smaller than the line as a whole shown in Exhibit 66, because of the different percentages of direct sale and resale gas in that section of the line, compared to the whole line. He exemplifies his method by pointing out that on Wednesday, January 24, with the mean temperature at 1.5 degree Fahrenheit, the maximum resale load was 67,783 Mcf., and the maximum direct sale was 47,343 Mcf. The total maximum for that day, of both direct sale and resale gas, was 115,126 Mcf., or 10,126 Mcf. more than the flow capacity of the line (105,000 Mcf.). Stored gas in the line was used to supply this excess demand. As a result, pressures became dangerously low, and the Pueblo steel mill was shut off to the extent of 10,000 Mcf. per day. This shutoff, combined with moderate weather, restored the line's storage.

He then points out that, if 67,783 Mcf. was required on a day with a mean temperature of 1.5 degrees Fahrenheit, then, for the Denver minimum of -15 degrees Fahrenheit, the load for the resale gas would be under average condition of wind and clouds, at least 77,400 Mcf. per day. (p. 11.) He then points out that this amount is the peak load obligation for domestic and small industrial gas for that month. (See Title 15, supra.)

With all compressor stations in operation on such a day, the capacity available to direct sale gas and resale special industrial would be 27,600 Mcf. per day (105,000 Mcf. minus 77,400 Mcf.). If compressor trouble reduced the line capacity to its net flow of 86,500 Mcf., then the surplus capacity available to the large industrials would be 9,100 Mcf. (86,500 Mcf. minus 77,400 Mcf.), but, under the terms of the sales contract, this must be shared by direct sale gas and resale special industrial gas. If shared pro rata with peak load obligations of the two classes, then 1,100 Mcf. would be available to the resale gas and 8,000 Mcf. to the direct sale gas. (pp. 11 and 12.)

The relation between the actual loads, available net line capacities and peak load obligations in January, 1940, which, as above pointed out, correspond with the calculated loads and capacities, he sets forth in Table A. (p. 12) as follows:

Table A.

Line Capacities, Peak Load Obligations and Peak Loads.
Main Line Clayton to Arkansas Valley Junction,
January, 1940.

	Mcf. Per Day		
	Resale	Direct Sale	Total
Actual Peak at 1.5 deg. F.....	67,783	47,343	115,126
Actual Peak Adjusted to -15 deg. F.....	79,385	47,343	126,728
Net Available Capacity.....	78,500	8,000	86,500
Firm Peak Obligations.....	77,400	.....	.....
Special Industrial Resale.....	7,600	.....	.....
Direct Sale.....	.....	52,500	.....
Total Peak Load Obligations.....	85,000	52,500	137,500
Maximum Day Obligation Ratio Based on Total Peak Load Obligations.....	61.8%	38.2%	100.0%
Quota of Line Capacity.....	65,000	40,000	105,000

He then points out that if the 105,000 Mcf. gross flow capacity of the 22-inch line in January, 1940, is allotted to resale gas (including resale special industrial gas), and to direct sale gas pro rata with their respective total peak load obligations, as shown in Table A, then the resale gas quota would be 61.8% (p. 14). He then points out:

"The resale business, however, with its 61.8 per cent quota of gross flow capacity (65,000 Mcf. out of 105,000 Mcf. per day) nevertheless has prior rights to 73.8 per cent and equal right to 1 per cent of the gross flow capacity of the line (78,500 Mcf. out of 105,000 Mcf. per day), and prior right to 89.5 per cent and equal right to 1.3 per cent of the net flow capacity of the line (78,500 Mcf. out of 86,500 Mcf. per day)." (p. 15).

This being so, he then states:

"* * * The least part of the cost that should be borne by the resale gas is the cost of a line with 61.8 per cent of the full capacity." (p. 15).

His next step is to convert or translate this per cent of flow capacity into a corresponding percentage of diameter of pipe, because, as he states:

"The cost of a pipe line does not vary in direct proportion to its capacity but the cost does vary substantially in direct proportion to the diameter." (p. 15).

By the use of Weymouth's formula, and illustrating his computations with charts, he obtains this result:

"A line of 61.8 per cent capacity has, as shown on Chart 11 attached, a diameter of 83.5 per cent of full diameter referred to as the diameter ratio. Accordingly, the resale gas should bear 83.5 per cent of the full cost of that part of the trunk line in which its quota is 61.8 per cent of capacity. The remaining 16.5 per cent of the cost to be borne by the direct sale gas is an ample charge since it provides only 9.2 per cent of the net capacity of the system which can definitely be counted on under maximum peak condition.

"With the cost divided pro rata with diameter ratios, the resale gas taking the base diameter, it would pay for 83.5 per cent of the cost and have the right to 90.8 per cent of the net firm capacity. It would thus get 108.7 per cent of what it paid for. Similarly, the direct sale gas would pay 16.5 per cent of the cost but would have the definite right to use only 9.2 per cent of the net firm capacity. It would thus get 55.8 per cent of what it paid for. The direct sale gas would then pay almost twice as much per unit of net firm capacity as the resale gas. This is an ample payment for the right to use surplus capacity when not needed by resale gas." (p. 17).

He then, on pages 17 and 18 of this exhibit, summarizes the reasons why such apportionment is more than favorable to the resale gas, and why other methods should not be used.

He then applied the method, illustrated by the foregoing application to the section of line from Clayton Junction to Arkansas Valley Junction in January, 1940, to the whole pipe line system of the company.

The overall composite use of the whole line in January, 1940, is determined in statements attached to his exhibit. This overall use is the weighted average of the uses of the several lines, weighted in proportion to their dimensions. The weighting unit is the "inch-mile", which is the product of the outside diameter in inches and the length in miles.

His percentages for the whole line are set forth in Table B, page 21, as follows:

Table B.

Apportionment of the Pipe Lines of the Denver Pipe Line System, January, 1940.

	Apportionment of Lines in Inch-Miles		
	Total Inch- Miles	To Resale Gas	
		Per Cent	Inch- Miles
Canadian River Gas Company			
22 Inch Main Line.....	1,903	83.76%	1,594
All Laterals	42	100.00	42
Total Inch-Miles	1,945	84.11%	1,636
Colorado Interstate Gas Company			
22 Inch Main Line.....	3,269	84.00%	2,746
20 Inch Main Line.....	2,100	99.48	2,089
Arkansas Valley Lines.....	634	58.20	369
Other Laterals	638	42.32	270
Total Inch-Miles	6,641	82.43%	5,474
Both Companies Combined.....	8,586	82.81%	7,110

In addition to the mains, the other facilities, such as land, rights of way, maintenance camps and miscellaneous structures, used primarily in the operation and maintenance of the line, are apportioned on the same basis as the mains. (p. 22).

As to the cost of operation and maintenance of the transmission line, he then demonstrates that it is but little affected by the size of the pipe, but is controlled by the mileage. On a strict increment cost basis, little or none of the

operating and maintenance expenses would be chargeable to direct sale gas, but he makes the apportionment in the same ratio as the capital costs, which he concludes is a division of expense most favorable to the direct sale gas. (p. 22).

No further detail of these apportionment percentages for the transmission line is included here, for the reason that such apportioned percentages are set forth in full in Exhibits 320 and 319 by the witness Lusk in Titles 38 and 39, hereinafter abstracted.

Mr. Rhodes then makes an apportionment of compressor stations. He states:

... * * The first unit installed at each station is dedicated to and used practically continuously by the primary business on the line and therefore its cost should be borne entirely by the resale business. The costs of additional units of the stations are chargeable both to resale gas and direct sale gas in proportions reflecting its use for the two services." (p. 23).

Of Colorado Interstate's stations, Clayton and Canyon stations are each of three units and the Devine station two units. His problem was to apportion the units, in addition to the first unit, in each of those three stations. For this purpose he refers back to the facts developed in his study of the peak load and line capacity actually existing during the month of January, 1940, and which the evidence already abstracted shows corresponded with the calculated peak loads. He then said:

... * * It is seen that with all equipment in operation, 65,000 Mef. per day out of a total of 105,000 Mef. per day, or 61.8 per cent of the capacity, is allotted to resale gas as its quota and that the remainder of 38.2 per cent is allotted to direct sale gas as its quota. However, when spare equipment in the stations is out of commission then the direct sale quota is reduced to 8,000 Mef. per day out of a total net flow capacity of the line of 86,500 Mef. per day, namely 9.2 per cent. Such percentage is all of the capacity of the Clayton and Canyon Stations that can definitely be counted upon by the direct sale business and if con-

tribution to the cost were made in that proportion then the direct sale gas and the resale gas would be contributing like amounts per horsepower of net firm capacity. Any contribution by direct sale gas to the cost in excess of that percentage would constitute a contribution to the costs of the compressor station equipment that must otherwise be borne by the primary or resale business.

"The cost of installing the first compressor unit, including the base or fixed cost, may be obtained by deducting the incremental cost of the second unit of a two unit station from the total cost of that station. The incremental is determined by comparison of the costs of a three unit station, such as Clayton, with a two unit station, such as Devine. Using reproduction costs new as of December 31, 1938 exclusive of land and State sales tax given by Exhibit No. 70, the incremental cost of an additional unit is obtained as follows:

Clayton Compressing Station.....	\$499,180
Devine Compressing Station.....	382,396
<hr/>	
Incremental Cost of 1 Unit.....	\$116,784

Therefore, by subtraction of the incremental cost of one unit from the cost of Devine Station, the cost of a one unit station, including the base or fixed cost, is determined to be \$265,612, or about two thirds the total cost of a two unit station. It can similarly be shown that the cost of a one unit station, including the base or fixed cost, is about one half (two fourths) the total cost of a three unit station.

"Therefore, the first unit (1,000 hp.) of a three unit (3,000 hp.) station would be charged to resale gas and the cost of the other units pro rata with their use by the kinds of service. The subtraction of 33 1/3 per cent (one unit) from the resale quota (61.8 per cent) shown by Chart I, leaves 28.5 per cent of the resale quota which must share the remaining 66 2/3 per cent capacity (2,000 hp.) with the direct sale quota of 38.2 per cent. The 66 2/3 per cent capacity would then be

allocated (28.5 divided by 66.67) 42.7 per cent to resale gas and the direct sale gas would be called upon to bear the remaining cost. The total cost of a three unit (3,000 hp.) station would therefore be allocated to resale gas as follows:

Basis of Allocation of Compressor Station to Resale Gas.

Horsepower	Basis of Use		Percentage of Cost	
	Resale Percentage	Horsepower	Total	Resale Gas
1 Unit —1,000 hp.....	100.0%	1,000	50.0%	50.0%
2 Units—2,000 hp.....	42.7	854	50.0	21.4
Total Resale.....	61.8%	1,854	100.0%	71.4%

The resale gas must bear all of the cost of the base unit of 50 per cent plus its pro rata use of 42.7 per cent of 50 per cent remaining costs (or 21.4 per cent) making a total capital allocation to resale gas of 71.4 per cent. Thus the direct sale gas would be called upon to bear 28.6 per cent of the cost as compared with 9.2 per cent of its net safe capacity available to direct sale gas. This would constitute ample contribution by direct sale gas to the costs that would otherwise have to be borne by the resale business." (pp. 23 to 25).

He then applies his principal to each of the three stations, and arrives at the following proportions of compressor station costs chargeable to resale gas on the basis of actual conditions obtaining in January, 1940, as follows:

Table C.

Proportions of Compressor Station Cost Chargeable to Resale Gas, January, 1940.

Station	Installed Capacity Horse- power	Resale Per Cent	Quotas Horse- power	Cost Quotas	
				Total Per Cent	Resale Per Cent
Colorado Interstate Gas Co.					
Clayton:					
Basic Unit.....	1,000	100.0%	1,000	50.0%	50.0%
Other Units.....	2,000	42.7	854	50.0	21.4
Gross Power.....	3,000	61.8%	1,854	100.0%	71.4%
Canyon:					
Basic Unit.....	1,000	100.0%	1,000	50.0%	50.0%
Other Units.....	2,000	42.7	854	50.0	21.4
Gross Power.....	3,000	61.8%	1,854	100.0%	71.4%
Devine:					
Basic Unit.....	1,000	100.0%	1,000	66.0%	66.0%
Other Units.....	1,000	83.8	838	34.0	28.5
Gross Power.....	2,000	91.9%	1,838	100.0%	94.5%

He then determines on this basis the proportions for all the stations throughout the years, which determinations are set forth in statements attached to his exhibit. As to the operating and maintenance expense of compressing stations he states:

"The operating expenses of compressor stations are affected by size much less than are their construction costs, but are little affected by the amount of gas handled. The maintenance expenses vary with size of station about as much as do the construction costs, but they are considerably affected by the amount of gas handled. A fair apportionment of the total annual expenses of these stations is arrived at by apportioning them as between direct sale gas and resale gas identically with their original costs as described above." (p. 27).

No further detail as to the apportionment of percentages of compressor stations and maintenance and operating expense thereof are given, for the reason that such detail is contained in Exhibits 320 and 319 by the witness Lusk, abstracted hereinafter under Title 38 and 39.

As to the apportionment of gasoline and desulphurizing plants, he first points out that they are necessary to the proper transportation of gas, and for that reason their costs and the revenues from the gasoline plant are considered as a part of the Denver Line. However, he states that the apportionment of those facilities should be on a basis different from the compressing stations because, under extreme peaks, some of the gas is by-passed. He states:

“... The maximum loads, therefore, on which these facilities should be apportioned are the average daily loads during maximum months rather than the extreme peak load obligations.”

Accordingly, he apportions the capital cost of the gasoline and desulphurizing plants and operating expense pro rata with the maximum month's requirements of resale gas and direct sale gas.

He then points out that the amount of gasoline recovered is proportionate to the quantity of gas treated, and the revenues therefrom are therefore apportioned pro rata with the annual quantities of gas handled. (p. 28.)

As to Colorado Interstate's meters, they may definitely be divided as between direct sale meters and resale meters, by the specific use to which they are put. Referring back to Exhibits 124 and 136, such apportionment on the basis of such use is found to be 60% to the resale gas and 40% to the direct sale gas. (p. 29.)

As to the telephone system, he refers back to Exhibits 67 and 133, and demonstrates that it should be chargeable to the transmission system alone, and that the cost and expense should be apportioned to direct sale gas and resale gas in the same manner as general property; that is, pro rata with the original cost of the operating property itself, apportioned to the two classes of business. (p. 30.)

General property is apportioned to the resale gas and

direct sale gas pro rata with the total amounts of original cost of the operating department property, in the proportion as already described. (p. 31.)

General expenses (other than operating taxes), are apportioned in the same manner as general property. (p. 33.)

Operating taxes, comprised of general property taxes, pay roll taxes, and miscellaneous taxes, are apportioned like general property and general expense. (p. 34.)

As to the cost of the gas purchase contract with Canadian, he points out that it covers three classes of gas: first, resale gas for the Denver Line; second, direct sale gas for the Denver Line; and third, all gas sold to the Chicago Line, and then states:

“ * * * The book amount and cost of this agreement is fairly apportioned to the three classes of gas pro rata with their total respective volumes of gas to be received by Colorado Interstate throughout the entire project period of the Denver line.”

As to the gas sales contracts with the Public Service Company for Denver, and Pueblo Gas and Fuel Company for Pueblo, he points out that they cover the sale of resale gas exclusively, and the book costs thereof are chargeable to the resale gas alone. (p. 35.)

As to the gas sales contract with the City of Colorado Springs, it covers the sale of gas for resale, but also, the sale of gas to the city for its power plant. The cost of this agreement is therefore apportioned to resale gas and direct sale gas pro rata with the respective gross revenues received and to be received from the city over the life of the contract. (p. 36.)

As to working capital, he refers back to Exhibits 68 and 70 (abstracted under Title 22 supra), and points out that it is comprised of three elements: first, percentage of annual expense; second, a cash working fund, and third, materials and supplies. The working capital required by the first two elements or components is governed by the annual operating and maintenance requirements, “and the closely related maintenance of credit.” These two parts or components of working capital are therefore apportioned

between resale gas and direct sale gas pro rata "with the respective total amount of direct expenses of the operating departments apportioned to the two classes of gas . . . that is, in the same manner as the general expense. (pp. 37 and 38.) The third component or element of working capital, that is, materials and supplies, is controlled by the extent of the property and it is thus appropriately apportioned between the two classes of gas "pro rata with the respective total amounts of operating system property" as already apportioned. (p. 38.)

The detailed percentages of apportionment for each item of property are shown in supporting statements to this Exhibit 316, and are employed by the witness Lusk in his Exhibits 320 and 319, abstracted hereinafter under Titles 38 and 39.

On cross-examination (Vol. CII, pp. 15886-15948) Mr. Rhodes stated that when he checked the design of the line he had in mind both the "primary" business, that is, the gas to be resold for domestic and small industrial users, and which was to be given preferential or priority use of the facilities, and the "secondary" business, that is, the direct sales to industrials, which would have to get off the line when necessary to accommodate the preferred business; that the line was built as small, and therefore as inexpensively, as could be done, and yet provide safe capacity for the estimated peak load capacity for resale gas; that these estimates have been closely borne out in operation; that the primary and secondary business are both essential; that is, you cannot do without both of them, and you cannot do without either of them (p. 15943); that all natural gas pipe lines in America have been made possible and have been built up on that same basis, and that such basis makes the assignment only of "incremental" costs to the secondary business not only appropriate but necessary.

Further Testimony of the Company's Witness, RHODES.

Q. Mr. Rhodes, you have heretofore presented a number of exhibits in this proceeding, have you not?

A. Yes.

Q. The first of which had to do with the reproduction cost new of properties less observed depreciation?

A. Yes.

Q. You have also prepared a number of exhibits having to do with and confining themselves to the construction of a plant devoted to resale gas alone, in the Denver line?

A. Yes.

Q. Following your exhibits of that nature, there have also been presented in this record exhibits sponsored by Mr. Lusk, where the accounting phases of that nature were presented?

A. Yes.

Q. And testified to by him?

A. Yes.

Q. Now, in what respect does this Exhibit 316, that is now sponsored by you, differ from these cost allocation exhibits heretofore presented in this record?

A. Well, those exhibits, as to description of the line, the determination of its equivalent original costs, and so forth, that were designated as a line for Denver line for resale gas alone, finally culminated in one of Mr. Lusk's exhibits which showed the rate statement relating to that business alone, showing the earnings available and applicable to the equivalent original cost of such a line.

In other words, it showed what I call the base costs, arising from the resale business, which has, at least to the extent of the domestic and small industrial loads, a first call on capacity.

There were other exhibits which showed similar rate statements over the whole of the company's operations, and the difference between those sets of exhibits would show the increment costs or additional costs incurred by the company, to put itself in a position to handle, and also in the handling of the gas sold directly to consumers.

Well, this exhibit goes further, in that it charges to the direct sale gas, in addition to its own increment costs, a portion of the base cost that actually would be required in a project to handle the resale gas alone.

Q. This exhibit for the first time definitely attempts to spell out what you label incremental costs?

A. Not specifically. I refer to incremental costs in here—

Q. (Interposing) Yes, I will ask you right there what do you define that to be?

A. Well, the incremental costs, as related to direct sale gas for instance, are the added costs incurred to make provision for and to handle that business, over and above the costs that would be incurred in the absence of that business.

Q. Well, but you, on page one of your written statement, Exhibit No. 316, begin with the premise, the third last line on the page, this premise, "Resale gas is the primary business of the Denver Line."

Now, is that an abstract statement or do you attempt to really relate that to the Denver Line?

A. Well, in what follows, it is related to the Denver Line, the remainder of the paragraph.

Q. Then you say that resale gas, in your opinion, is not the primary business of the Denver Line.

A. I say it is the primary business of the Denver Line.

Q. I mean, it is the primary business of the Denver Line?

A. Yes.

Q. And you make that statement in the light of the history of the operation of the Denver Line?

A. With the knowledge of the history of the line, yes.

Q. And with knowledge of the purposes that prompted the building and construction of the line?

A. Yes. The line was built to supply resale load as the primary business, which I define more fully here as that business which has the first call on the capacity of the line.

Q. You definitely had that in mind?

A. Yes.

Q. When you prepared this Exhibit?

A. Yes.

Q. Weren't you part of the organization of Ford, Bacon & Davis at the time this line was constructed, or were you?

A. Yes, I was.

Q. Do you recall any provision in the contract of June 1, 1928, between Canadian River Gas Company and Ford, Bacon & Davis, Incorporated, the engineering agreement for the building of this line, paragraph 11, which reads as follows:

"The company"—meaning Canadian River Gas Company—"desires to begin deliveries of gas to the Colorado Fuel & Iron Company, December 1, 1928, and as much earlier as is possible, and the engineers agree to use the utmost speed

consistent with sound practice in all construction work and in the event the engineers do not progress with speed satisfactory to the company, the company may direct the engineers to employ additional help and take additional means to expedite construction, or the company may itself employ additional help and take additional means to expedite such construction."

Do you recall that paragraph?

A. The general provisions of it, yes.

Q. Isn't that the only paragraph in that entire contract of 6-1-28 that refers to any market, of Canadian River Gas Company, on this Denver Line?

A. I don't recall the whole contract.

Q. Why, in your opinion, then, was Colorado Fuel & Iron Company market singled out in a definite paragraph in this contract to expedite construction in this contract and effectuate deliveries to that market?

A. There were two reasons for such a provision. One reason would be that it involved a large load that could immediately be connected to the line and produce immediate revenue, and the second reason is that in making arrangements for such a large load, it is necessary to give the consumer some assurance as to when it will be able to get the gas.

Q. But what I particularly want to draw your attention to is the fact that there wasn't anything said about any other market, not even the Denver market, and that they singled out Colorado Fuel & Iron to the engineers?

A. Well, the engineers were well acquainted with the whole market and, when they designed the line, they designed the line to handle the whole market, and furthermore it was anticipated by the engineers, in the design of the line, that, as the other markets increased in extent, it would probably be necessary to make curtailments of that particular load during extreme cold weather peaks.

Q. That is your opinion?

A. Well, it is more than an opinion, because I checked the design of the line, and I, myself, surveyed the market.

Q. All right, you recall, too, what Mr. Edward G. Hill, one of your associates at Ford, Bacon & Davis, had to say at the early part of this hearing, don't you, with reference to Colorado Fuel and Iron?

A. I heard him testify, yes.

Q. Page 218 of volume 2, Mr. Hill said—he was asked, “Did you have anything to do with the negotiation of the Colorado Fuel & Iron Company contract?” He answered, “No.”

“Question: Ford, Bacon & Davis, Incorporated, negotiated that contract?

“Answer: Yes, they did.

“Question: For Colorado Interstate?

“Answer: Yes, I think really before Colorado Interstate was formed and when the project was at its embryo, that was one of the essentials.”

Then he also mentioned that well-known phrase in this proceeding about the Denver market and the Colorado Fuel & Iron being the two pillars on which this line was founded or built?

A. Yes, that is true.

Q. Now, you come along at this late stage, and throw aside one of the pillars and have this resale business to be the primary business of the construction of the Denver Line, and that the direct sales are secondary?

A. I throw aside nothing. I accept the facts of the situation as they are, that the resale business, at least to the extent of the domestic and small industrial business, is a first call on all the gas in the line, and, for that reason, I call it the primary business, that the other business sold directly to the consumer must get off the line as necessary to protect deliveries to the domestic consumers, and for that reason I call it the secondary business.

Q. You say, you are accepting the facts. You mean you are taking the abstract and reading it into the provisions of these rate contracts, that do set up certain provisions as to priorities.

Are you calling those priority provisions as facts, or are you calling what has actually happened as facts?

A. Well, what has actually happened is the curtailment of the large industrial loads to protect deliveries to the domestic consumers. That is a fact.

Q. When you are speaking of priorities, are you speaking of those provisions in the rate schedules or contracts?

A. Why, I don't recall the provisions of the rate schedule, but having been in the gas business for a good many years, I know that the domestic consumer must be served and the domestic consumer has therefore, as I see it, a prior right to the gas in the line and it is on the basis of that premise that this exhibit has been developed.

Q. You are going right back to what I asked you at first. Are you laying that down as an abstract proposition applicable to gas companies or a great many gas companies, or are you relating the matter directly to the Denver Line in the light of its history?

A. Well, there are a number of questions there, but, as related to this particular exhibit, it relates to the Denver Line.

Q. And is predicated on what has actually happened, or what may happen?

A. Both.

Q. Both?

A. On both.

Q. You say, then, that the resale gas is the primary business of the Denver Line, in the light of what has actually happened during the operation of that line?

A. Yes, as I define the primary business, namely that which has the first call on all the gas in the line.

Q. That which actually has the first call or that which has had the first call?

A. Both.

Q. Let us see what you mean. You mean that which has the right to have the first call?

A. I am not attempting to interpret the contract, but I know that the direct sale business must get off the line to the extent required to assure deliveries of domestic gas on the resale contracts.

Q. And your whole exhibit is predicated on that theory?

A. On that—among other things, on that theory, yes. That is a basic theory back of this exhibit.

Q. That one sentence, "Resale gas is the primary business of the Denver Line." You follow through on that?

A. Yes.

Q. Your exhibit?

A. Yes.

Q. Now, do you recall this early exhibit that Mr. Lusk presented in this proceeding, Exhibit No. 43?

A. I don't recall it by number.

Q. In that exhibit, Mr. Lusk gives the facts and figures that he stated were taken from the company's books and records, showing actual volume of gas sold from the Denver Line, 1928 to 1939 inclusive. Do you recall that?

A. I recall such an exhibit, yes.

Q. Statement A-1, is what I want to direct your particular attention to, because I note the breakdown appears on line nine, item nine of that statement, where sales of gas direct to consumer single out Colorado Fuel & Iron Company?

A. May I see the exhibit?

Q. Yes (handing). I think that is one of the few exhibits that gives a definite breakdown between Colorado Fuel & Iron Company deliveries and other direct sales.

A. Yes, I see that.

Q. You see in the year 1928, item nine being Colorado Fuel & Iron Company deliveries; Colorado Fuel & Iron Company was the only direct sale customer, wasn't it?

A. That is correct.

Q. During that period, 1928, Colorado Fuel & Iron Company purchased 2,521,748 M.c.f. from Colorado Interstate, did it not?

A. Yes.

Q. During that same period, the resale domestic customers purchased from Colorado Interstate, Line twelve, 1,200,311 M.c.f., didn't it?

A. That is the total resale domestic sold by Colorado Interstate and Canadian River from the line.

Q. 2,521,000 M.c.f. for direct sale to Colorado Fuel & Iron as against 1,200,000 M.c.f. domestic. Is that what occurred in 1928?

A. Yes.

Q. Still, if we would stop right there, you would still say that the direct sales are the primary business of the Denver Line?

A. Well, you don't build a line for seven months. You build a line for a longer period.

Q. I am just going to get to that. Let us follow right on through your item nine, right on through to 1939. Your item twelve, right on through to 1939. That is what I was getting at.

Now, in the light of that history, tell me, are you still

definitely convinced that the resale gas is the primary business of the Denver Line?

A. M.e.f. per year or for five years or for any number of years, in itself, is no measure of what is the primary business or the secondary business. The thing which is the measure of the primary business is the business which has the primary or first rights to the capacity of the line, and the domestic business does have and has had the first rights to the gas in the line.

Q. Although in the light of what has actually happened during the entire history of the line, these facts, statement 1-A of 43 are correct?

A. The facts are correct, but they are wholly unrelated to which is the primary and which is the secondary business, the M.e.f. delivered.

Q. Then, as I take it, in your opinion, if there were a provision in a rate contract giving "A" company certain priorities, if you want to label them that, for the taking of gas, and that so-called priority was never exercised or seldom exercised during the entire history of the company, that would still justify your labeling that as the primary business of the company?

A. That is a hypothetical question that has no relation to this project.

Q. Oh, it doesn't?

A. No. The primary business, the domestic business and the resale business has had, and always has had the first call on the gas in the line.

The domestic business of the resale group has never been curtailed by shortage of gas that is being asked to be shut off, but the direct sale to consumers have at times been disconnected and some of the large industrial consumers, that receive gas from the distributing companies, have been curtailed to protect deliveries to domestic consumers.

Q. Then, how do you arrive at the conclusion that the fact that a customer or a group of customers, as you say, have been curtailed or cut out, that that directly relates to cost of serving that customer or group of customers?

A. A customer which can take what is available when it is available, as it is available, and if—when, as, and if available—certainly is not getting the service or using the capacity of the system in the same manner as the consumer

that always gets what it wants when it wants it, with an obligation on the part of the line to increase its capacity to meet their increasing requirements as necessary.

There is no comparison between the two classes of business and similarly there is no direct comparison between the costs involved in the two classes of business.

Q. In what manner do you relate additional cost to a portion of the business that would technically, as you have it, have the right to have some priority over the other class of business.

Under what theory do you relate additional cost to one as against the other?

A. I don't quite follow you.

Mr. Lange: Just strike that.

By Mr. Lange:

Q. Under what theory of estimating costs do you say that one group of customers should have allocated to it certain costs as against another group, because that first group has technically some priority over the other group, which may not have been called into play?

A. Well, that is a rather long question, but the business which causes the costs, should bear the costs and the business which only brings about incidental additional costs, strictly speaking, should only bear those additional costs, if you are trying to determine costs.

Q. Now, which business are you saying that brings the additional volume that should bear the additional cost?

A. The business which has the prior right to the capacity of the line should bear the base costs, and the business which takes what is left should bear the additional or incremental costs.

Q. That additional business is what you call the "incremental business"?

A. Yes.

Q. And that should bear what is called an additional or incremental cost?

A. Basically, yes.

Q. All right, which is other or new business that ought to bear an incremental cost, as being incremental business?

A. The business which takes gas when it is permitted to

take it, namely the large industrial business, whether it be direct sale business or the gas which is sold to the distributors or resale to large industrial. That business should bear the increment costs.

Q. Although, just for the sake of an example, supposing both those classes of businesses or their takings were placed in parallel columns, and the takings of each was almost equal, you would still say that one was primary and the other was secondary?

A. If, in fact, they both had equal rights to the capacity in the line, I don't believe you could distinguish between the two as primary and secondary business, except as one of the classes might be a short-time business, that might or might not be renewed in later years, and another class of business was a long-time business.

If during the period they had simultaneously equal rights in the line, then the long-time contract I would consider to be a primary contract, because it has rights and privileges that the other contract does not have.

Q. So, with the exception of the matter of rights between one, as distinguished from the other, both columns representing long-time business and continuing business, the only reason why one would be primary and the other secondary, is because of the right that one would have, that the other wouldn't exercise primary taking?

A. I don't think that question of yours is quite what you mean.

Q. All right. Let us take the two columns again, with takings over periods of years being comparable. One is resale gas, one is direct sale gas.

In both instances, they are long term contracts, or there haven't been any interruptions in the taking of them in so far as renewal being necessary.

Now, your resale gas, you say, has priority, because it is not subject to the interruptions that the direct sales are?

A. Well, it has priority, in that it has the right to get the gas without being interrupted or curtailed.

Q. Just because it has that right, different costs are related to it than to the other direct sales?

A. Primarily so, yes.

Q. What do you mean by primarily so? Why should any

different costs be related to it than to the other direct sales?

A. Because it is the business—being the business that must be served and having that situation of requiring the other business to get off in case of trouble, that business, I believe, should bear the prime or base cost.

It is customary—it is the custom of the business. It is the custom of other businesses. The surplus products or the things that are available, not necessarily regularly, but sold if, when, and as available, are customarily sold at lower prices than those like products that are sold under a firm obligation to deliver when they are required.

Q. Yes, but we are relating costs here, not to what the resale customer and the direct sale customer paid.

We have before us here, the costs to Colorado Interstate and Canadian River Gas Company. That is what we are trying to find out?

A. Well, the cost to those two companies was shown in the previous exhibits related to resale gas alone, and those are the costs which would have been incurred had there been no other business.

Now, the additional costs are readily obtained by subtraction as between those exhibits and another set of exhibits which would show the additional costs that actually were incurred by the company to handle this resale business.

Q. In this Exhibit 316?

A. No. Those increment costs would be obtained from the other exhibits previously referred to.

In this exhibit I have assigned more cost to the direct sale gas than its true increment cost.

Q. On what basis do you predicate that assignment of additional cost to the resale customers in 316?

A. On what seemed to me to be a fair basis of the secondary business, sharing in the basic or prime costs.

Q. What I still want to know is on what theory do you allocate costs, where Colorado Interstate and Canadian River Gas Company are the ones selling resale, as well as the direct.

Where is there more cost to the companies selling, or delivering this resale gas, as distinguished from the direct

sale gas, regardless of these priorities that you are speaking of?

A. The costs incurred by the company or costs actually incurred as a lump, and I am trying to apportion those costs in a fair manner. They must be apportioned, if it is desired to divide the costs.

I have considered, as I have repeatedly said, that those costs which have the first call on the capacity of the line are the ones that should bear the cost.

I will give an illustration of that from the text—

Q. (Interposing) What page?

A. (Continuing)—without reading directly from the text, but I show in the text, beginning on page 14, and in discussing the use of the transmission lines, I show that of the net capacity of the system, as it existed in January 1940, namely, Colorado Interstate System, of the 86,500,000 cubic feet per day, net flow capacity of the line, 77,400,000 cubic feet a day would be required to meet the obligations of the firm resale gas, that another 1,100,000 cubic feet per day would give the special industrial gas its share of the remaining capacity, and that the direct sale gas would only have 8,000,000 cubic feet per day in the capacity of the line that it could be definitely assured of.

Strictly speaking, on a pro rata basis, the direct sale business should pay for 8,000,000 feet of the capacity of that system and no more, because that is all that it can be sure of getting.

The resale business should pay for 78,500,000 cubic feet of the capacity of that line, because it can get it and be sure of getting it, even if all the direct sale business has to be shut off.

Equality in cost should be measured by what is obtained from the cost, rather than by some figure that is quite unrelated to the cost of running the transmission line.

Q. Now, let me ask you again and get this clear in my mind: that statement—this Exhibit No. 316 and the statement—when you speak of methods of apportionment of costs, you are speaking of costs to Canadian River Gas Company and Colorado Interstate Gas Company, aren't you?

A. Yes, I am speaking of costs to the project.

Q. Costs to the company?

A. Costs to the project—the company, yes.

Q. Not costs to the purchasers or consumers of the gas? You are speaking of costs to the company?

A. Yes.

Q. Let's get that clear.

A. The other is price.

Q. Let's get that definitely understood. It is costs to these companies.

What I still want to know is why a provision in the contract, providing for priority, should itself constitute an element of cost to the company furnishing that gas.

A. Well, in itself it doesn't constitute an element of cost, but in this particular case, in that particular year, it gave a right to more than 90 per cent of the safe capacity of the line to one class of business and left less than ten per cent of the safe capacity of the line to the other class of business.

Q. What year are you talking about?

A. I am talking about the month of January, 1940.

Q. All right. I think we know something about the year 1940—and 1939, too.

If we look to Exhibit 307, I think we will find there that these direct sales don't just fill in—don't just fill in as secondary sales.

A. I don't know what you mean.

Q. Well, I will just take the year—you were taking one month in the year 1940 as an example?

A. I was taking as an example the month in the history of the company which, up to that time, resulted in the line handling the maximum amount of gas.

Q. All right. What year was that?

A. That was in the year—January 1940, when the line was loaded to the limit of its capacity and in fact beyond the limit of its capacity on two days.

Q. All right. January, 1940, the direct industrial sales were 1,030,088 as against the resale gas of 1,204,123 up to the Denver gate.

Now you say that that still presents a picture of the resale gas bearing the primary load and should be assessed with the basic costs first?

A. Yes, because the monthly or particularly the average volume of gas handled has very, very little effect on the costs.

Almost all of the costs of the natural gas business are occasioned by capacity—the ability to supply gas for a single day, and but a small portion of the costs are affected by the actual volume of gas that might be delivered over a month or a year.

It is basically the day, the ability to deliver gas on a single day, that occasions the cost.

Q. However, the very purpose of the construction of the line was to serve a direct sale customer (A), a resale customer (B)? It started out that way, didn't it, without distinction? The genesis of the line was that, wasn't it?

A. The genesis of the line was to provide sufficient capacity to meet the requirements of the market, and it was the capacity that was provided that cost the money.

The costs, if they are shared, as they should by rights be, to use that capacity, would be charged, as far as this section of the line is concerned, more than 90 per cent to the resale gas, because it has a right to 90 per cent of the safe capacity of that pipeline, and the other ten per cent is all that is really chargeable to the business which can only be assured of ten per cent of the capacity of the line.

Q. Let us again forget the right, and point to what actually occurred.

In 1928, during the seven months, as shown in Exhibit No. 43, Statement A-1, Colorado Fuel & Iron purchased 2,521,000-plus M.c.f. as against 1,200,000-plus M.c.f. of resale domestic customers.

Supposing we stop right there and, as a matter of determining cost allocations, were in the picture, as far as Denver line was concerned, what would you do?

A. Well, the line never would have been built, if you are going to stop right there.

Q. Oh, it wouldn't?

A. Oh, no. The line was built as a twenty year project.

Q. All right, we will go right through 1929. Colorado Fuel & Iron took 8,191,000 M.c.f. of gas as against 3,662,000 M.c.f., resale domestic. What about that?

A. Well, the method of apportioning costs, and all of the factors required are shown in this exhibit of mine.

Q. All right. 1930. Speaking of the history, now, not of any theoretical rights, or something that may have been written but not exercised, speaking of what actually occurred in 1930, the Colorado Fuel & Iron took 7,576,000-plus M.c.f. as against 4,925,000 M.c.f. for resale domestic. Resale still is the primary subject of being assessed with primary and basic costs, on the Denver line?

A. Yes, because this line was built, not to supply the domestic load that existed in 1928, 1929, or 1930; it was built to supply the increasing domestic load as it increased year by year by year by year, until, 1946, the domestic load was estimated to be many times that of the first year.

Q. The actual figures are the ones that we actually know?

A. I know, but the line had to be built for what was actually expected when the line was designed.

Q. We have the period for several months, during 1928 and through 1939, actually. Take 1931, Colorado Fuel & Iron, 5,419,000-plus M.c.f. as against 5,452,000 M.c.f. of domestic resale. 1932, 4,718,000-plus M.c.f. as against 5,725,000 resale.

Then each of the years '33 and '34 are just about the same, not much difference. So is '35.

'36, Colorado Fuel & Iron took 8,476,000-plus M.c.f. as against only 5,990,000-plus M.c.f. for the resale domestic. 1937, Colorado Fuel & Iron still took more—7,817,000-plus M.c.f. as against 6,777,000 M.c.f. of resale.

1938, they are just about comparable.

1939, Colorado Fuel & Iron took 8,241,000 M.c.f. as against 7,020,000 M.c.f. for resale domestic.

In the light of that history, those facts, Mr. Rhodes, you still persist in saying that the resale gas is the primary business of the Denver line?

That is what I want to know. I don't want to know any abstract theories. Is that a fact?

A. As related to the facts that you have cited, they have little or nothing to do with what is the primary business and what is the secondary business.

Q. They have little or nothing to do with the costs to the companies?

A. The costs are not—talking about the project as a whole, now—the costs aren't affected very much by the annual volumes of business.

Q. Not by the monthly volumes of business?

A. They are fixed primarily by the costs incurred on the maximum day—the capacity to handle gas on the maximum day dominates, by a very large percentage the cost of doing business in the natural gas business.

Q. All right, we will get back *fo* 1928 again. How many compressor units did you start out with?

A. I don't recall what was operating in that year, but—I don't recall the dates of starting the compressor units, but I think I may have something here.

Q. What I want to know is what you allocated to resale and what you said wasn't allocable to resale gas.

Mr. Dougherty: To compressor stations?

Mr. Lange: Yes.

Mr. Dougherty: Don't you have a sheet that shows that, Mr. Rhodes?

The Witness: The year 1928 is just a part of the year—it is the getting started—and all apportionments for that portion of the year were based on the peak loads that occurred in the winter of 1928 and 1929.

Now, on compressor stations the apportionment of compressor stations for the year 1929—that is, for the winter of 1929-1930, which I considered as applicable in the partial year 1928—

Mr. Dougherty: (Interposing) Is that statement 12, Mr. Rhodes—is that the one?

The Witness: Statement No. 12 shows the Canadian River Gas Company's Bivins Station on the first page, and shows that for 1929 and 1930, 68.2 per cent of the cost of that station was apportioned to the resale business.

Now, in the year 1929 and 1930 there was no station operating on Colorado Interstate's portion of the line, so the Bivins Station was the only station apportioned.

By Mr. Lange:

Q. In 1928?

A. Well, on the basis of the winter of 1929 and 1930, which was the only basis of apportioning the 1928 cost.

Q. So the Bivins was the only one operating?

A. That is right.

Q. What would you do with the Bivins Station there? You would allocate that under your method in 316 entirely to resale, winter of 1929?

A. No, sir. Only 68.2 percent of the cost was apportioned.

Q. But you state in your exhibit 316 the first unit is allocable to resale?

A. That is right.

Q. Well that was the only unit?

A. Oh, no, there were 3 units in the station.

Q. 3 units in the station?

A. Yes.

Q. Then you have allocated the first entirely to resale gas?

A. That is right.

Q. And the others to apportionment between resale and industrial?

A. Apportioned them between resale and direct sale, after giving due allowance for the use of the first capacity by the resale business. In that winter, based on the peak obligations, 57.5 percent of the capacity in horse power would be required by the resale business as compared with the direct sale business, and I have allocated 68.2 percent of the cost to the resale business, thru this apportioning of the base unit, which is the most expensive unit in any station, to the primary business.

Q. Now you are reading from what statement?

A. I am reading from page 1 of statement number 12.

Q. Now, then, what I want to know is how you arrived at those percentages at this time, for the year 1929 and 1930?

A. How I arrived at them?

Q. Yes. How you arrived at them at this time and related them back to 1929 and 30?

A. Well, the 57½ percent of the power is the ratio of the resale gas, peak load obligations during that winter, to the sum of the peak load obligations of both resale and direct sale gas.

Q. How did you know what the peak load obligations were during that winter?

A. Why, from the records of the company's loads.

Q. For the winter 1929?

A. For the year 1929-30, yes.

Q. When did you finally determine your peak day for each one of those years or each one of those winters?

A. Well, these figures were made out last winter.

Q. Last winter?

A. In Denver.

Q. You determined what the peak capacity of the system was at that time?

A. Well, for the purpose of this exhibit, yes.

Q. And then related it back?

A. Yes.

Q. So, in the winter of 1929 and 30, when Colorado Fuel and Iron was taking 8,191,000-plus M.c.f. as against 3,662,000 M.c.f. for resale domestic, your percentages as set forth on statement 12, page 1, would be the ones that would obtain correctly?

A. Those are the—57 $\frac{1}{2}$ percent as the true ratio of the peak load for that particular winter and the 68.2 percent apportionment to resale gas gives due effect to the resale gas prior right and in fact sole right to the base unit in the plant.

Q. And what portion of this 8,191,000 M.c.f., that Colorado Fuel and Iron purchased in 1929 was subject to being reduced or cut back?

A. There were no curtailments in those early days. The least capacity that could be provided, having in mind the future domestic requirements was ample in those days to take care of all business.

Q. It couldn't have cut back beyond a certain percentage or curtailed in any way, could it, under the contract with Colorado Fuel and Iron?

A. I don't recall the terms of the contract but I do know—

Q. Do you know what the provisions of that contract were?

A. —but I do know as a matter of fact, that at that time the metallurgical processes were equipped to burn oil, which they had been burning before natural gas was available, and had there been a line break it would have been possible to cut back the steel mill in Pueblo.

Q. Yes, but you know from the very inception Colorado Fuel and Iron agreement provided that a certain portion of its take, applicable for certain particular uses, was to be uninterrupted?

A. I don't recall the exact phraseology of the contract in that respect. I am just stating the facts that it could have been interrupted without any serious difficulty had it been necessary.

Q. I am just asking you, though, whether it isn't a fact that the contract with Colorado Fuel and Iron has such a provision?

A. The contract is a matter of record in this case.

Q. Yes?

A. And I think it will speak for itself.

Q. You gave no consideration to that provision in proceeding in your exhibit 316?

A. No, I considered only the facts that the domestic gas would get the break—

Q. You are still speaking in the abstract, giving not even lip service to what the company's history and actual contracts are, are you?

A. I am basing this on the customs of the business.

Q. Oh, the customs. Now, that is what we are getting at.

A. And the well-known and the accepted prior right of the domestic and small industrial business that is universally recognized in the natural gas business.

Q. That is what I thought, that it is purely an abstract approach with no definite relation to what the actual facts were in the history of this line.

A. It is based wholly on the facts of the history of this line.

Q. You just stated it was not.

A. The figures as to apportionment are based on the facts.

Q. You just stated that you gave no consideration whatsoever to that particular clause in C. F. & I. direct sale contract that prohibits the interruption of a certain portion of its load.

A. As I have stated before, I don't recall the contract, and this division as between the primary business, based on priority, and the secondary business, based on secondary priority, is based on the customs of the business.

Q. That is right.

A. Now, in designing this line, the design of which I checked before it was built, just about—in fact, the least capacity that could be provided to take care of the domestic obligations in the future years, the smallest line that you could reasonably expect to build, had ample capacity in the line so that the business to the C. F. & I. need not be interrupted.

It had to be provided and it is provided at practically no cost.

Q. All right, and, as the business of the line increased, the load increased, that same clause remained in the C. F. & I. contract, didn't it?

A. I don't recall the contract, but I do know from investigations, as to what was being done with respect to shutting off loads, that the C. F. & I. rather preferred to have shut off this business that the contract, as you state, says it is not to be shut off, they preferred to have that business shut off rather than some other use.

Q. Regardless of what they may have preferred or said, we are speaking of costs now. That you are relating two different classes of businesses, aren't you? You are relating costs to Colorado and Interstate and Canadian River, to two distinct classes of business?

A. No, I am apportioning costs. The costs have been separately determined in other exhibits. This is an apportionment of costs.

Q. Of those costs?

A. Yes.

Q. You are apportioning them between what you term one is primary business and the other is secondary business?

A. That is right. The prime cost of the business with the first right in the line and the remainder of the costs to the business with the second right in the line.

Q. Now, speaking in the abstract, supposing that these so-called priorities that you say are prevalent in the operation of a natural gas transmission line, if such a priority, as for the sake of example, had never been exercised in the operation of a line, you would still say that that apportionment of costs would be allocable regardless of whether the priority had been exercised or not?

A. Yes.

Q. In other words, you would read the priority provision, putting it in a homely way, without listening to what actually occurred?

A. No, I wouldn't do anything of the kind.

Q. Well, that is exactly what you have done here.

A. No, I haven't. The gas business and the long distance transmission of natural gas could only have been developed on a basis of assigning secondary or increment costs to the increment business.

Every market for natural gas that has existed has included consumers to whom the gas was worth, in some instances, a very low price, competing with the cheapest form of fuel that is useful—for instance, in steam making all through higher and higher values of gas to the consumer up to the point where, to the domestic consumer, the gas was worth the most.

Now, in laying out a line and studying the market, if you start in with a line to supply the market to whom the gas is worth the most, namely, the domestic consumers, it costs so much to supply that market that it is generally not considered to be a satisfactory project.

In broadening your market to take on additional classes of business at a lower value to the consumer, and as you go down in the scale, you will finally reach a point of having sufficient volume of business so that the project can be supported, getting from the consumers to whom the gas was worth the least practically all the gas was worth, making it necessary then to charge for the domestic gas very much less than the gas could possibly be sold for if you didn't follow that practice.

In other words, the charging in the minds of the promoters of the project of the increment cost to the low class of business, which has secondary right in the line, is the thing which has made these big, long natural gas projects feasible.

It could never have been done on any other basis.

Q. Can you show me anything on this 1928—this exhibit 1, where the preliminary negotiations were had, or your Exhibit 43, where the facts are actually set up as to what has transpired since then, that there was any mention of this theory that you have just related there in the abstract fashion?

A. Well, it isn't a matter of theory. The facts surrounding that principle that I have outlined was so well

known in the business that there was no occasion to write them down in contracts any more than it is necessary to write down the multiplication table when you do some figuring. They were well accepted principles and had it been necessary for some reason or other to sell all gas for the same price per Mcf on some theory that the cost was the same, you never would sell gas to a consumer like the C. F. & I. They couldn't pay the cost.

Q. You still maintain that all of this abstract statement you have just made has a definite relation to cost and I can't relate it to cost?

A. To what statement are you referring?

Q. What has been done in the industry and why gas has been able to be transported over long distances to domestic users and so forth and so on, wherein does that have any relation to costs of Colorado Interstate and Canadian River Gas Company?

A. It reflects the cause of cost in the order in which it would be incurred.

Now, it is a well known fact that to supply a certain market that is going to cost \$10,000,000 in a pipeline, if it costs that amount of money to supply that market, you have a measure of the price you would have to charge in supplying that market to support the project.

Now, double that market in peak load, Mcf per day on the one day in the year could be provided for less than \$5,000,000 more.

Now, that second block of gas only cost \$5,000,000, where the first gas cost \$10,000,000. It cost half as much per unit of the second block of gas by extending the market as it cost for the first block of gas.

Now, that is no abstract theory; that is a fact; and those facts in their general relation have been well known in the natural gas industry for a good many years.

Q. The fact still remains in your example that the total cost would have been \$15,000,000?

A. The total cost was about \$1,000,000 less than that, as I remember, if you eliminate the market for the direct sale gas.

It cost almost as much to supply the retail market alone

as to supply the whole market and that is shown on these other exhibits based on my description of Denver line for resale gas alone.

Q. Aren't you definitely confusing value of gas to somebody with cost of gas to Colorado Interstate and Canadian River?

A. No, I have very clearly in mind the elements of value. Of course, you can't sell gas to a large consumer like C. F. & I. for more than the gas is worth.

Q. I suppose they know what they are paying for and you have got your Mcf that you sold them. I still want to know what relation that would have to cost to Colorado Interstate.

A. Costs in the gas business, as I have stated many times to you, can only be determined by apportionment and if you try to apportion your costs of gas on a basis of so many Mcf per year, you just can't sell the gas if you are going to sell it at a profit—you can't sell it.

Then you would be trying to sell gas to some consumers for far less than it will cost because you wouldn't be able to sell it to the other consumers, and if you start out on the basis—suppose you start out on the basis and you figure a project and your cost is 10 cents per 1000 cubic feet on the average and let us assume it is only worth 5 cents per thousand cubic feet to part of the fellows that you thought you were going to sell it for 10, and you don't sell it to them, then you sell it to the rest of the people for 10 and when you get through, instead of its costing you 10 cents a thousand, it is costing you 15 or 20 cents a thousand. The whole marketing of natural gas is predicated on that fact that you can add capacity for a fraction of the cost of the base capacity and thus make money out of increment business and cut down the cost and the prices of the gas to the consumers to whom it is worth the most.

Q. All right. Where does primary business end and increment business begin?

A. Well, the primary business extends to the business which has the first call on the gas in the line and that is the end of it, and the gas which has the second call on the gas in the line is increment business and if you have three classes of call on the line, you could have still a second

degree of increment business, and that exists in the gas business.

Q. All right.

What character of load was this primary load that domestic resale had on the Denver line when they started out?

A. The load at the start was small, but the business in the territory was such that it would have been necessary to build a twenty-inch line if nothing else was considered except the domestic business.

It doesn't make any difference what the load was.

In 1928, costs were occasioned by what the load was going to be.

Q. Do I get it definitely and unequivocally from you, that, in your opinion, the Colorado Fuel & Iron load in 1928 and for all the following years is an increment load?

A. It is an increment business which can be assigned and can be assigned only the increment costs.

Q. And it was that from its very inception?

A. Yes, it is something inherent in the nature of the business.

Sometimes that class of business in the early days of the development of project is referred to as surplus gas and the Commission, itself—representatives of the Commission, itself, have adopted the principle in certain exhibits they have presented of charging to the domestic business the primary cost to the line.

Q. I object to that. Is there anything in this case to that effect?

A. I am just stating it as a fact that I know.

Q. Is there anything in this proceeding to that effect?

A. To the effect that that has been done?

Q. Yes, in this case.

A. No Commission representative in this case has done it, no.

Mr. Lange: Then I want it *stricken* from the record. Whatever may have been done in other proceedings that we are not trying—we are trying the Canadian River In-

terstate in this proceeding. I don't think it has any relevancy or bearing here.

Trial Examiner: I don't think it will do any harm.

By Mr. Lange:

Q. It is your position, definitely, then, that from the very outset of the Denver line, Colorado Fuel & Iron Company load was incremental load?

A. Yes, it was an incremental load that could be charged only with the incremental costs of doing business.

Q. Regardless of what the purpose was in the construction of the line and the very genesis of the building of the line?

A. That was the purpose and that was the consideration of that load in building the line; namely, that it was a business at which the gas must be sold at a price that would enable it to bear only the increment costs of doing business.

Q. That is written into the picture in Exhibit 316 by you?

A. Those were the basic facts back of the carrying out of the project.

Q. And, throughout your Exhibit 316, as you proceed, right on the second page, you again speak of the fact that direct sale gas is the secondary business. You first spoke of resale gas being the primary business on page 1 and then you again label the direct sale gas as the secondary business of the Denver line on page 2.

A. Yes.

Q. And that direct sale gas, of course, includes Colorado Fuel & Iron Company loads from its very inception?

A. Yes.

Q. As well as other direct sales?

A. Yes.

Q. And you proceed on those two basic assumptions in setting up your apportionment factor?

A. Well, they are not assumptions. They are facts, as I have defined it, and I state here on page 2—I said, "It is appropriate that the firm resale gas with its dominant priority in the line should pay the base or underlying costs and that the direct sale gas and resale special industrial gas should bear the added or increment cost necessary to its supply."

Q. What other load could have come on later as being an incremental load other than direct sale?

A. Well, in a way, the Colorado & Wyoming load was an incremental load, in that, at the initial inception of the project, that market was not taken into consideration.

Q. So that is an incremental load, too?

A. Yes.

Q. Although a large part of that is resale gas?

A. Yes, and if I recall correctly, the contract definitely makes it subordinate in character to the other resale gas.

Q. Well, according to your interpretation, though, regardless of what the contracts may say, it is the basic theory in the industry that resale gas is the one upon which the primary costs are to be fixed, and direct sales are secondary?

A. Well, those terms aren't necessarily universal in the industry. It is the domestic and small industrial gas which is the gas with the dominant priority, and it is the large industrial gas, however it may be sold, that is of the secondary priority.

Q. Well, in what respect do you draw a distinction there?

A. Why, the distinction there is that large industrial consumers can supply themselves with other fuel on short notice and get off the line, whereas domestic consumers and small industrial consumers generally are dependent solely upon the line for their fuel supply when they once become connected.

Q. Well, you are then relating factors of cost to elements that are clearly within the control of the operating company, aren't you?

A. Well, I am relating elements of cost to their cause. Business which can be shut off doesn't cause costs to the same extent as business which can't be cut off.

Q. All right.

The company has it within its control to determine what additional compressor units are necessary to take care of the line's requirements, hasn't it? You can determine whether you need an additional compressor unit; then you determine to what class that cost is applicable, don't you?

A. Why, the additional compressor unit on the basis I

have used here, apportioned as between the two classes of business, practically pro rata with their use of the compressor station.

Q. Yes, but you don't start off with that kind of allocation. You charge the first unit directly to the resale alone regardless of the volume that that unit may take care of?

A. Yes, that is right, because that unit is required to supply the firm demand for gas.

Q. All right.

I want to know right there how under the sun, you can determine the cost element applicable to that first unit when both resale and direct sale gas are being pumped through?

A. You don't determine the costs; you apportion the costs on a fair basis, which I have done.

Q. Purely a matter of judgment?

A. Largely a matter of judgment, because jointly used property does not show distinct and separate costs for the different uses to which it is put.

These over-all costs must be apportioned and they must be apportioned with due regard to the facts.

Q. All right.

Speaking of various characters of incremental loads, then I suppose this house heating load that came on in later years would be an incremental load, too?

A. The house heating load is a part of the business that it is expected to get when a project such as this is worked out.

Had this market been entirely devoid of any possibilities for house heating load, then the domestic sales would have been very much less and it is questionable if the project would have been worth while.

Now, the actual incremental costs of the house heating load, the low costs of incremental business, are really the only things that make it possible to supply the house heating load at the city gate.

If the project were built for the cooking and water heating load, with its very high load factor, the line would be so small that it would make the costs prohibitive.

Now, the house heating load has a very poor load factor—oh, about 25 per cent or thereabouts as compared with 80 per cent for the other.

Now, a 25 per cent load factor gas, in itself, would be very expensive, but the added capacity of the line is provided so cheaply, over and above that required for the domestic cooking and water heating load, that the true costs of the very poor load factor househeating increment gas are quite in line with the costs of the more favorable load factor cooking and water heating.

Q. Well, there you add a little extra phrase to your definition of incremental costs because, certainly, the house heating load has no priority distinction like the resale has over direct sale, does it?

A. No, but I am not attempting to apportion costs between the two classes of domestic gas. I am merely pointing out the fact that the house heating gas on the basis of the real average cost—because of cost—ought to be sold at a higher price than the other, but due to the very favorable increment costs of increasing the capacity of transmission lines, the house heating gas can be sold at the same city gate price as the other increment gas.

Q. Yes, but you are applying a different approach—rather, you are approaching that problem in a different fashion than you are the incremental cost problem applicable to direct sales?

A. It is a different problem. I am not attempting to apportion the costs as between the two classes of domestic gas.

Q. Then, you are not treating that character of incremental load like you are the direct sale load?

A. I am not treating that segregation at all. I am treating the domestic and small industrial as one individual unit.

Q. In other words, you are segregating the two classes of domestic gas?

A. I am not at all. I am not attempting to apportion the costs that fine. If I were going to apportion the costs that fine, I would treat the cooking and water heating as the very first prime business and then the house heating as the next increment and then the small industrial as another in-

crement and the big industrial as the last increment, each one of these getting the advantage of the increment costs with the added business and, if that were done, why, it would show the cost of gas to these small—for house—for cooking and water heating, would be rather a great deal more than anybody would be willing to pay for them.

Q. Well that just goes to show the question I asked you a while ago: Where does the primary load end and the incremental load begin if it can just be moved backwards and forward in the construction of an exhibit like this at will?

A. Not for this kind of exhibit. I have definitely two classes of gas that have been defined by somebody else, and it is my mission to apportion the cost between those two classes of gas, which I have done.

The natural division between primary business and secondary business, however, is that division where it becomes possible to shut off the load. Take, for instance, a certain business, which the real primary business is that which cannot be shut off when a project is once built. The secondary business is business over and above that which can be shut off, either under contract provisions or because the consumer is in a position to take care of himself without difficulty.

Q. So, in so far as any other incremental loads are concerned, particularly as the example that we have just had of house heating load, that is an incremental load that you don't attempt to treat in this exhibit at all?

A. I am taking it into account, but I am not treating it separately. I am not attempting to segregate costs, as between all the different classes of business.

Q. So an incremental load can get into the picture in the absence of any priority affecting it?

A. Well, when a project is being designed, yes, you design it to take care of the different increments of load as I have described, starting in with the first most valuable gas and taking on increments of less and less valuable gas until you have worked out a project which is a worked out project.

Q. But always coming back to the fact that the construction of the Denver line, the very history of the genesis of the line as well as its operation, definitely show that it was intended for joint use, both domestic and direct sale.

A. The line was laid out for a primary business of domestic and small industrial gas, and an increment or secondary business of special industrial gas that went to the limits to which this particular project has gone, namely, selling gas for a minimum of around ten cents.

Q. That is your interpretation of what the purpose of building of this line was?

A. It is my interpretation of the principles under which the line was designed and upon which the design of the line was checked by me.

Q. I still want to know what relation that would have to cost by these two companies, of delivering that gas to various destinations.

A. Well, I think I have explained that. The costs without the increment business would be the cost shown by the exhibits based on the Denver line for resale gas alone. Those were the costs without the increment business, and the costs with the increment business as shown by the rate statements, for the project as a whole. Now, those are costs. This is an apportionment of costs that goes beyond that.

Q. That is true, but you have taken it upon yourself to set out the bases of those two apportionments, and you further take it upon yourself to fix the points at which those two bases are to be set. You show to what extent primary gas is to form one basis and secondary gas the other basis, don't you?

A. In a way, but as I pointed out, my division is the division as between that gas which can't be interrupted and that gas which can.

Q. And although house heating load or any other load that may be attached later and is not subject to any interruption, it is still in the class of incremental load?

A. It is incremental as compared with cooking and water heating, but it is not incremental as compared with the large industrial consumer.

Q. Where, other than has been shown in this record as to the history of the construction of this line and its purpose, is that in the record, that you have just stated, with reference to the character of treatment you have given resale gas as distinguished from direct sale in apportioning costs.

A. I think that question is a little confused. I wish you would rephrase it.

Q. Where in this record is there an apportionment indicated between resale gas and direct sale gas, to bear out the theory you have followed here.

A. The costs, not apportioned, but actual costs, are in the record in exhibits which resulted from my determination of the line for resale gas alone, and the cost incurred in connection with that line, and actually incurred in connection with the line as actually built. Those are costs, and they are very definitely on a true increment basis.

Now this is the first exhibit in the record which is attempting to go beyond that and which is apportioning the cost on the so-called increment theory.

Q. You have a chart that you set up on page 19 of this exhibit that I would like to have you explain, as to the relative capacity of pipe lines. I suppose you employ the Weymouth formula?

A. Yes, that is a graphic representation of the Weymouth formula, showing the relation between diameter and capacity of the pipe line.

Q. You really have a portion of two different charts on that page 19, haven't you?

A. No, it is the same line, split for ready reference. The lower line takes care of diameters up to 60% only, whereas the upper line takes care of diameters from 60 per cent to 120%, so that the chart may be used either way for an increased capacity or a decreased capacity.

Q. I notice your horizontal scale is zero to 60 and then 60 to 120.

A. Yes, that is the same both above and below.

Q. That is the same both above and below. Now why don't you have the same vertical scale? You employ a different vertical scale to the right than you do to the left?

A. Well, that is to make the chart more useful, more accurately readable.

Q. More accurately readable?

A. Yes.

Q. Suppose this were all projected in one, you would have a different curve, wouldn't you? You would have a uniform scale vertically?

A. As far as the figures are concerned, the figures would be identical, but the shape to look at would be different. The figures taken from the curve would be identical if you could read it.

Q. What is the purpose of the curve if it could be projected in a different fashion?

A. This curve was divided into two parts to facilitate its use.

Mr. Dougherty: So you could get it on one sheet of paper?

A. Yes, so I could get it on one sheet. I could have drawn the thing on a great big scale, so the lower parts related to, say, 20% diameter, would be readable with a reasonable degree of accuracy. It is purely a matter of convenience. There are a dozen different ways that this curve could be drawn.

By Mr. Lange:

Q. You can relate the two together although your vertical scale is different?

A. Yes, the two curves are mathematically identical, one of them relating to from 0 to 60% diameter, the other from 60 to 120. The same identical curve.

By Mr. Dougherty:

Q. If you took that top part and cut it off and then moved it over to the right so that the vertical scale is to be coterminous, then you would have a complete curve, wouldn't you?

A. Yes, but it would be a broken curve.

Q. That is right.

A. If the lower curve were plotted to be on exactly the same scale as the upper curve, then the right-hand end of the low curve would be down at the same level as the left-hand end of the upper curve, and it would be less easy to read it accurately.

By Mr. Lange:

Q. Now, on page 28, where you speak of the apportionment of gas-line and de-sulphurizing plant, is my inter-

pretation correct that you have apportioned the entire cost of de-sulphurizing plants to the Denver line—resale gas on the Denver line?

A. No, the gas line and the desulphurizing plants are apportioned pro rata with the maximum monthly requirements.

Q. But you have allocated them entirely to the Denver line?

A. Yes.

Q. Now, is no part or portion of them allocable to any other load?

A. No, as the gas line plant is physically a part of the Denver line, and the proposed location of the de-sulphurizing plant is to deliver gas into the Bivins station.

Q. Then, in your opinion, no portion at all of that could be allocable to any other delivery.

A. Not as it is proposed to install it.

Q. And the apportionment of the telephone system, that is entirely apportioned to the Denver line, too, isn't it, page 30?

A. Yes.

Q. And you recall testimony in this proceeding, that shows the use made of that system, not only—or rather, not confined to the Denver line alone, isn't that true?

A. It is very difficult to differentiate between the uses there solely for the Denver line and the other uses. It is so closely related to the operation of the Denver line, however, that it seems appropriate to consider it all as chargeable to the Denver line.

Q. And on page 35, gas purchase agreement with Canadian River Gas Company, you allocated that entirely to the Denver line?

A. No, it is apportioned as between the Denver line and the Chicago.

Q. On what basis is that apportionment?

A. Pro rata with the total volumes of gas delivered, and expected to be delivered through the initial contract period.

Q. Now, is there anything in this record, Mr. Rhodes, that—any document or any agreement or letter or any memorandum of any character—that would indicate that

this line was constructed for the purpose of being the primary one for resale gas?

A. I think I have stated it quite a number of times, both today and in previous testimony which I have given.

Trial Examiner: Mr. Lange, I believe he has made it quite clear on that.

Mr. Lange: I want to be certain that there weren't any inferences of any nature that we haven't touched upon that. I wanted to be sure. I believe that is all for the present.

Trial Examiner: Any redirect?

Redirect Examination.

By Mr. Dougherty:

Mr. Rhodes, I wanted to call your attention to a provision of exhibit one, which is the original memorandum of stipulations entered into between Southwestern Development, Cities Service Company, and Standard Oil Company, wherein reference is made to the contracts that are to be made between pipeline companies and distributing companies.

I am reading from page 15 of that exhibit, paragraph "e" as follows: 'In any of said contracts, it is to be stipulated that the demands of domestic consumers upon the supply of natural gas are to be preferred over service to industrial consumers, and that the remainder may be pro rated after demands of domestic consumers, among commercial and industrial consumers, but that such domestic preference should not be exercised so as to deprive Colorado Fuel & Iron Company of the volume of gas needed to complete open hearth heats then in jeopardy, and to keep its furnaces warm during extreme domestic demand upon the pipelines of the Colorado Company, or so to deprive any other industrial consumer which requires a small proportion of its normal gas demand to prevent damage to its appliances.'

Now, does that recognize that the demands of domestic consumers, as the line was originally conceived, were to have prior rights except for these emergencies just referred to for certain industrial uses?

Mr. Lange: (interposing) That paragraph speaks for itself, Mr. Examiner. I object to this witness reading into that—

Mr. Dougherty: You asked him, Mr. Lange, if he knew of anything in the record that showed that domestic gas—

Mr. Lange: (interposing) That is true—

Mr. Dougherty: (Continuing) —was the basic or prior gas and I am asking him now if this doesn't do that.

Mr. Lange: That would be purely an interpretation.

Mr. Dougherty: That is what you asked him for.

Mr. Lange: I wanted him to find out whether there is one.

Trial Examiner: Supposing you let the Examiner determine that, Mr. Dougherty?

Mr. Lange: Besides, the witness said he paid no attention to what Colorado Fuel & Iron—

Mr. Dougherty: There is no contention on your part that incremental business is not as necessary to its financial success as the domestic business, is there?

A. I believe it is essential.

Q. In other words, secondary business is just as important as primary business.

A. Yes, from the standpoint of earnings.

Q. When you cannot do without both of them, of course, you cannot do without either?

A. That is correct.

Q. And when you discuss the phrase, "primary business," you are not making any assumption that that business, so called, would, in and of itself, support the pipeline—primary business?

A. No, I am not.

Q. Now, in making this apportionment of costs, you make a reference in your statement on page 3, in the second paragraph, as follows: "The causes which affect costs in the gas business are, either directly or indirectly, related to rates of delivery," and then you go on to discuss questions of maximum rates, *hether* they be maximum

monthly rates or maximum daily rates, or maximum daily obligations.

Now, have you, in this apportionment study, made any apportionment to the primary business, that is, the resale firm business, on this incremental basis, except where the use of the property by the resale business was of such a character as constituted a prior or primary utilization of it? For example in the question of gas leaseholds?

A. Yes. Well, I have apportioned those costs related to the production and gathering of gas as between the primary and secondary business, as though they had equal rights, except that I have rather favored the primary business by using the maximum month instead of the maximum daily obligations.

Q. Now, what I wanted to get at was this, that when you utilized your difference between primary and secondary gas, it is only when the primary gas has a prior right of use of the line that you follow that principle?

A. That is right.

Q. Now, with respect to leaseholds themselves, you there say that you are apportioning those between the Chicago and the Denver Line entirely on the basis of aggregate volumes of gas marketed?

A. And expected to be marketed.

Q. And expected to be?

A. Yes.

Q. And there you have disregarded any priority that the Denver Line may have over Chicago?

A. That is right.

Q. When, however, you get to the question of the utilization of leases—that is, that portion of the leases that have been allocated or apportioned to the Denver Line, do you use the monthly maximum basis there?

A. Yes, a monthly maximum basis is used throughout for apportioning those production costs, which are controlled by peak loads.

Q. Now, when you were discussing the pipe line itself, there you are talking about daily maximum obligations, are you not?

A. That is right.

Q. That is, it is the peak use or peak, or right of peak use of the line which you think should be charged against the resale gas?

A. That is true.

Q. And if that right did not exist, and if that use might never take place, or if you were sure the use definitely wouldn't take place then you might follow some other principle?

A. I might, depending on circumstances.

Q. If all classes of gas were to be curtailed alike, and pro rata, to the volumes that they take, then you wouldn't use this same principle for apportioning pipeline costs?

A. No. I would use the principle that I used as apportioning the costs of Canadian River's portion of the line, as between its own gas sold for resale and the gas which goes to Colorado Interstate for resale.

Namely, those costs are apportioned pro rata with the peak load obligations, directly.

Q. So the basis of your determination of what percentage of a certain pipeline should be charged against the resale business is on the basis of right to use?

A. That is the fundamental basis of those things which are integrals, like a pipeline.

Q. When you use January 1940 as the peak month and took the peak day of that month, that gave you the actual capacity that was used by the resale gas?

A. That is right.

Q. And you used that as one of the basic factors in determining then what percentage of the transmission line ought to be charged against that business?

A. Yes, that is a starting point.

Q. Yes, that is what I mean. The result of applying your principles of apportionment would over all give place to a greater portion of the costs against the direct sale gas than would be placed against them as the result of using your computed costs on that 20 inch line basis?

A. Yes. A much greater portion.

Q. Or I should say that the amount of cost chargeable against the resale gas, as a result of this apportionment method, are less than actually were computed by you in those exhibits relating to the Denver Line for resale gas only?

A. That is right.

Mr. Dougherty: That is all.

Recross Examination.

By Mr. Lange:

Q. Just one question. That peak day that you used in January 1940, you used that figure for the one day in January, you utilized that one day in January to compute your figures, didn't you?

A. No. I explained in connection with my exhibit on peak load obligations, how these ratios were determined. They were based on a study of the conditions throughout the winter months as compared with the summer months.

As it happened, on that particular day, the ratio of use is closely in line with that which I determined by considering the over-all obligations during the winter months.

Q. Yes, but you didn't take the whole month of January as a basis of comparison, did you?

A. It isn't the month of January that occasions the costs. It is the one day when the line is loaded to the limit.

Q. That is the one day that you used?

A. In effect, yes.

Q. You paid no—

A. (Interposing) That is, for that particular season.

Q. And you gave no consideration to the use of the load that went to direct sales as compared with the *load* that went to the resales during each of the months of the year?

A. No, I didn't consider them, because they do not contribute to the cost. They were taken into account, however, in determining and apportioning those parts of the cost, which arise from volume as distinguished from capacity.

(Vol. CIL—(1), pp. 15886-15948.)

35-A. Commission's Method of "Allocation of Cost of Service"

NAME OF CUSTOMER (1)	OF SERVICE (2)	AT WELL HEAD (3)	GATHERING (4)	REVENUE (5)	VOLUME COSTS (6)	DOM. COM'L & LOST GAS (7)	INDUSTRIAL (8)	DISTRIBUTION (9)	TOTAL COST (10)	REVENUE (11)
TRANSMISSION SALES										
Direct Industrial Sales										
California Fuel & Iron Corp.	Pueblo, Colo.									
American Crystal Sugar Co.	Rocky Ford, Colo.	212,841.03	36,325.04	(15,799.88)	299,080.80		496,795.84	14,815.82	1,047,887.87	1,877,086.78
A. T. & S. P. R.R.	La Junta, Colo.									
Calo. Portland Cement Co.	Portland, Colo.									
The Girdler Corp.	Thatcher, Colo.									
Total Direct Industrial Sales										
Sales to Public Authorities										
U.S. Dept. of Agriculture	Thatcher, Colo.	31	2.84	(1.81)	22.92	57.34		1,274.74	1,373.04	440.40
Veteran's Administration	Ft. Lyon, Colo.	27	839.74	(345.65)	6,542.25	14,582.25		1,799.37	28,046.23	45,676.64
Total Sales to Public Authorities		4,072.88	842.68	(345.65)	6,565.17	14,639.59		3,074.11	29,489.17	46,117.04
Sales to Other Gas Utilities										
Art. Valley Nat. Gas Co.	Ft. Lyon, Colo.	21.72	3.82	(1.61)	30.81	71.67			126.21	377.70
	Ft. Val., Colo.	341.74	61.85	(23.37)	480.15		1,040.93	1,347.62	3,246.70	3,187.12
	Fowler, Colo.	161.80	29.18	(12.01)	227.34	444.36	63.73	1,223.78	2,136.15	3,126.87
	Las Animas, Colo.	645.80	96.40	(40.80)	786.60	2,064.13	106.22	1,821.23	5,331.63	9,788.82
	Manzanola, Colo.	83.86	9.71	(4.00)	75.68	114.87		1,209.17	1,489.09	1,002.79
	Orway, Colo.	199.15	35.92	(14.78)	279.81	326.69	593.00	1,289.33	2,512.12	3,179.88
	Sugar City, Colo.	47.19	3.10	(1.28)	24.16	71.67		1,129.03	1,843.86	300.14
	Adjustments							801.14	801.14	(551.48)
Total Art. Valley Nat. Gas Co.		1,541.06	241.86	(99.68)	1,684.24	3,096.29	1,603.88	8,821.27	18,888.35	20,350.84
Citizen's Utilities Co.	La Junta, Colo.	1,806.46	325.61	(134.03)	2,536.75	3,841.57	1,614.50	4,393.14	14,383.00	29,959.07
	Rocky Ford, Colo.	1,169.77	210.96	(86.84)	1,643.88	4,328.94	829.49	3,556.21	12,650.11	20,073.74
	Adjustments									437.25
Total Citizen's Utilities Co.		2,975.23	536.57	(220.87)	4,180.33	8,170.51	2,443.99	7,948.35	26,033.11	50,470.88
City of Colorado Springs	Colo. Spgs., Colo.	17,696.75	3,191.54	(1,313.69)	24,854.59	30,947.61	16,892.60	5,842.95	96,822.83	212,987.45
Colorado Wyoming Gas Co.	Apache, Colo.	62,954.33	11,356.37	(4,674.64)	88,467.59	106,532.03	91,134.33	1,672.24	357,651.85	496,480.81
Pueblo Gas & Fuel Co.	Pueblo, Colo.	9,946.24	1,793.77	(738.34)	13,974.90	22,834.44	6,691.68	11,693.91	68,196.80	157,572.31
Pub. Serv. Co. of Colo.	Anchorage, Colo.	802.89	109.73	(44.78)	847.06	1,906.46		1,742.37	2,648.77	11,205.78
	Denver, Colo.	136,063.56	24,536.53	(10,100.43)	191,175.16	392,329.01	99,334.30	24,919.04	866,286.17	2,028,077.31
	Englewood	1,816.24	327.91	(134.97)	3,564.71	8,966.44		2,376.00	15,907.33	33,472.46
	Pittsme, Hosp.	8,444.72	1,234.42	(809.10)	9,217.12	1,791.78	18,163.14	2,112.69	39,286.77	44,863.11
	Littleton, Colo.	870.37	102.86	(42.34)	801.40	2,494.16	329.27	1,813.95	6,089.67	9,313.47
	Sullivan, Colo.	42.44	7.88	(3.18)	59.53	3,640.90	116.84	1,165.46	5,029.77	663.36
	U.S. Army Air Sch., Denver	91.27	16.44	(6.78)	128.24				229.19	1,848.20
Total Pub. Serv. Co. of Colorado		145,033.49	26,386.52	(10,640.82)	208,183.34	409,127.74	117,643.58	34,134.61	927,918.67	2,129,745.48
TOTAL SALES TO OTHER GAS UTILITIES		240,957.15	43,956.67	(17,887.21)	339,586.09	580,708.62	235,409.11	70,313.23	1,491,811.71	3,061,577.68
Sales to Associated Gas Utilities										
Clayton Gas Co.	Clayton, W.M.	2,299.09	414.23	(170.67)	3,280.33	4,787.33	2,697.92		13,286.93	24,706.06
Amarillo Oil Co. (Special)	Martley, Tex.	116.94	21.09	(8.88)	144.31	430.03	96.80		819.29	833.00
	Dalhart, Tex.	8,000.89	1,442.87	(693.91)	11,241.17	10,492.66	12,694.78		43,479.14	44,238.54
	Texline, Tex.	802.16	86.46	(36.01)	844.61	573.37	180.57		1,261.99	1,372.47
Total Associated Gas Utilities		10,618.78	1,918.04	(788.27)	14,919.88	16,383.69	15,669.88		58,117.95	71,646.07
Interdepartmental Sales										
Gas Used in Co. Operations	Compressor Sta.	9,510.80	1,715.23	(706.01)	13,563.08				23,883.10	20,645.49
	Co. Dwellings	818.35	111.52	(45.90)	868.60				1,582.77	1,269.71
	Dehydration Plant	74.52	13.44	(6.53)	104.71				167.14	121.26
Total Interdepartmental Sales		10,203.67	1,840.19	(757.44)	14,336.69				25,633.01	22,036.45
TOTAL TRANSMISSION SALES - DENVER LINE		479,293.16	86,438.63	(36,679.44)	673,427.60	611,641.60	760,073.80	88,002.36	2,653,297.81	4,481,645.95
PRODUCTION SYSTEM SALES										
Sales to Other Gas Utilities										
Nat. Gas Pipeline of America	Fritch Sta., Tex.	486,334.31	82,298.09	(118,506.89)		230,807.83			660,631.24	1,876,289.49
Sales to Assoc. Gas Utilities										
Amarillo Oil Co. (At the Wells)	Contract B	106,381.20		(15,056.24)					90,324.96	167,889.73
	Contract C	4.04							4.04	20.17
	Special, Manning, Tex.	221.56							221.56	332.59
Total Assoc. Gas Utilities		106,606.79		(15,056.24)					90,550.56	168,242.49
Interdepartmental Sales										
Gas Used in Co. Operations	Compressor Sta.	23.80	4.21						27.51	37.94
	Gasoline Plant	7,584.60	1,387.08						8,971.63	13,804.80
	Field Operations	2,917.07	526.06						3,443.13	4,747.72
	Co. Dwellings	22.11	3.99						26.10	38.98
Total Interdepartmental Sales		10,487.08	1,891.31						12,378.39	20,129.44
TOTAL PRODUCTION SYSTEM SALES		672,428.18	84,189.40	(133,563.13)		230,807.83			753,860.18	1,984,630.42
TOTAL TRANSMISSION & PRODUCTION SYSTEM SALES		1,061,721.34	170,628.03	(169,144.37)	673,427.60	1,892,223.13		88,002.36	3,406,887.99	6,036,276.38

Summary of Leased Facilities

EXHIBIT

TAB. 1

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NAME OF CUSTOMER (1)	LOCATION OF SERVICE (2)	ANNUAL SALES, 1939				COINCIDENTAL SYSTEM MAXIMUM DAY DELIVERY, THURSDAY, FEB. 9, 1939			INDUSTRIAL CUSTOMERS (10)
		Domestic &				Domestic			
		Commercial (3)	Gas Lost (4)	Industrial (5)	Total (6)	Commercial Gas Lost (7)	Industrial (8)	Total (9)	
Transmission Sales									
Direct Industrial Sales									
Colorado Fuel & Iron Corp.	Pueblo, Colo.	-	-	7,257,379	7,257,379	-	30,563	30,563	32,578
American Crystal Sugar Co.	Rocky Ford, Colo.	-	-	332,998	332,998	-	105	105	7,383
Atchison, Topeka & Santa Fe R. R.	La Junta, Colo.	-	-	427,169	427,169	-	1,522	1,522	1,609
Colorado Portland Cement Co.	Portland, Colo.	-	-	1,676,091	1,676,091	-	2,213	2,213	5,390
The Girdler Corp.	Thatcher, Colo.	-	-	-	-	-	-	-	-
TOTAL DIRECT INDUSTRIAL SALES		-	-	9,695,637	9,695,637	-	34,403	34,403	46,960
Sales To Public Authorities									
U.S. Dept. of Interior	Thatcher, Colo.	743	-	-	743	4	-	4	-
Veterans Administration	Fort Lyon, Colo.	212,065	-	-	212,065	1,018	-	1,018	-
TOTAL SALES TO PUBLIC AUTHORITIES		212,808	-	-	212,808	1,022	-	1,022	-
Sales To Other Gas Utilities									
Arkansas Valley Nat. Gas Co.	Fort Lyon, Colo.	911	78	-	989	5	-	5	-
	Fountain Valley, Colo.	-	(638)	16,202	15,564	-	93	93	98
	Fowler, Colo.	6,685	(296)	980	7,369	31	3	34	6
	Las Animas, Colo.	23,133	854	882	24,869	144	10	154	10
	Manitoula, Colo.	2,441	12	-	2,453	8	-	8	-
	Ordway, Colo.	5,322	(439)	4,187	9,070	25	37	60	37
	Sugar City, Colo.	731	52	-	783	5	-	5	-
TOTAL ARKANSAS VALLEY NAT. GAS CO.		39,523	(397)	22,251	61,077	216	113	359	151
Citizens Utilities Co.	La Junta, Colo.	53,575	10,707	17,946	82,228	266	100	368	152
	Rocky Ford, Colo.	39,632	6,800	6,844	53,276	302	40	342	78
	Adjustments	2,789	(2,789)	-	-	-	-	-	-
TOTAL CITIZENS UTILITIES CO.		95,996	14,718	24,790	135,504	570	140	710	230
City of Colorado Springs	Colorado Springs, Colo.	352,444	-	453,567	805,981	2,159	1,447	3,606	1,468
Colorado Wyoming Gas Co.	-	1,130,975	-	1,736,674	2,867,649	7,432	3,902	11,334	8,580
Pueblo Gas & Fuel Co.	Pueblo, Colo.	324,365	-	128,603	452,968	1,593	534	2,127	630
Public Service Co. of Colo.	Aurora, Colo.	27,458	-	-	27,458	133	-	133	-
	Denver, Colo.	4,158,140	-	2,058,742	6,196,882	27,370	8,734	36,104	9,352
	Englewood, Colo.	82,810	-	-	82,810	486	-	486	-
	Fittsimmans Hospital	8,635	-	303,101	311,736	125	1,490	1,615	1,710
	Littleton, Colo.	22,421	-	3,556	25,977	174	31	205	31
	Sullivan, Colo.	228	-	1,705	1,933	254	10	264	11
	U.S. Army Air School, Denver, Colo.	4,157	-	-	4,157	-	-	-	-
TOTAL PUBLIC SERVICE CO. OF COLO.		4,203,849	-	2,347,104	6,550,953	28,542	10,265	38,807	11,104
TOTAL SALES TO OTHER GAS UTILITIES		4,203,849	6,261,167	4,712,969	10,974,195	40,512	16,431	56,943	22,163
Sales to Associated Gas Utilities									
Clayton Gas Co.	Clayton, N.M.	51,154	6,356	47,800	104,710	334	254	588	254
Amarillo Oil Co. (Special)	Bartley, Tex.	4,046	375	905	5,326	30	9	39	9
	Dalhart, Tex.	122,493	4,385	237,503	364,379	732	1,214	1,946	1,214
	Texline, Tex.	5,974	619	2,614	9,207	40	17	57	17
TOTAL ASSOCIATED GAS UTILITIES		185,667	11,735	288,222	485,622	1,136	1,494	2,630	1,494
Interdepartmental Sales									
Gas Used in Company Operations	Compressor Stations	-	-	433,160	433,160	-	-	-	-
	Company Dwellings	28,162	-	-	28,162	-	-	-	-
	Dehydration Plant	-	-	3,394	3,394	-	-	-	-
TOTAL INTERDEPARTMENTAL SALES		28,162	-	436,554	464,716	-	-	-	-
TOTAL TRANSMISSION SALES (DENVER LINE)		-	6,697,537	15,131,402	21,828,939	42,670	52,328	94,998	70,617
		-	-	-	-	44,9175	55.083%	100.000%	-
Production System Sales									
Sales To Other Gas Utilities									
Natural Gas Pipeline Of America	Pritch Sta. Tex.	-	-	-	20,783,301	-	-	-	-
Sales To Associated Gas Utilities									
Amarillo Oil Co. (At the Wells)	Contract "B"	-	-	-	2,799,484	-	-	-	-
	Contract "C"	-	-	-	184	-	-	-	-
	Special Channing, Tex.	-	-	-	10,090	-	-	-	-
TOTAL ASSOCIATED GAS UTILITIES		-	-	-	4,009,758	-	-	-	-
Interdepartmental Sales									
Gas Used in Company Operations	Compressor Station	-	-	-	1,061	-	-	-	-
	Gasoline Plant	-	-	-	342,701	-	-	-	-
	Field Operations	-	-	-	132,855	-	-	-	-
	Company Dwellings	-	-	-	1,007	-	-	-	-
TOTAL INTERDEPARTMENTAL SALES		-	-	-	477,624	-	-	-	-
TOTAL PRODUCTION SYSTEM SALES		-	-	-	25,070,683	-	-	-	-
TOTAL TRANSMISSION & PRODUCTION SYSTEM SALES		-	-	-	47,899,622	-	-	-	-

Total
(2)

1 Gas Disbursements
2 Total Transmission and Production System Sales
3 Free Gas to Lessors
4 Leakage and Unaccounted For
5 Total Disbursements

47,899,622
9,893
(1,126,121)
46,783,394

6 Gas Receipts
7 Gas Purchased
8 Gas Produced
9 Total Receipts

--
46,783,394
46,783,394

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Exhibit No. 226
TABLE 3

CANADIAN RIVER GAS COMPANY AND COLORADO INTERSTATE GAS COMPANYSUMMARY OF COST OF SERVICEYEAR 1939Cost

OPERATING REVENUE DEDUCTIONS

Operating Expenses

Natural Gas Production	\$321,619.38
Natural Gas Transmission	701,949.17
Natural Gas Distribution	66,737.01
Total Operating Expenses	<u>1,090,305.56</u>

Depreciation

Natural Gas Production	66,888.96
Natural Gas Transmission	314,887.94
Natural Gas Distribution	5,573.00
Natural Gas General	33,022.20
Gas Plant Held for Future Use (Transmission)	-
Total Depreciation	<u>420,372.10</u>

Depletion

Natural Gas Production	44,865.27
------------------------	-----------

Taxes

Federal Income	457,929.15
State of Colorado Income	27,514.12
State of Texas Gross Receipts	34,220.09
Property	236,704.04
Labor	21,437.77
Corporate and Miscellaneous	12,283.63
Total Taxes	<u>790,088.80</u>

Non-Recurring Expenses

267.79

TOTAL OPERATING REVENUE DEDUCTIONS \$2,345,899.52

EXPLORATION AND DEVELOPMENT COSTS

Delay Rentals	10,401.58
Non-Productive Well Drilling	29,293.73
Abandoned Leases	<u>1,878.18</u>

TOTAL EXPLORATION AND DEVELOPMENT COSTS \$ 41,573.49

Exhibit No. 226

TABLE 4 (Continued)

Cost

RENT FROM COMPANY DWELLINGS (Transmission Revenues) (16,913.12)

MISCELLANEOUS GAS ROYALTIES (Production Revenues) (256.69)

RETURN AT 6% ON NET BOOK COST - ADJUSTED OF GAS
PLANT IN SERVICE

Natural Gas Production	320,426.08
Natural Gas Transmission	671,015.71
Natural Gas Distribution	7,111.59
Natural Gas General	<u>22,413.21</u>

TOTAL RETURN ON PLANT 1,020,966.59

RETURN AT 6% ON WORKING CAPITAL

Natural Gas Production	8,120.33
Natural Gas Transmission	6,843.55
Natural Gas Distribution	<u>624.32</u>

TOTAL RETURN ON WORKING CAPITAL 15,588.20

TOTAL COST OF SERVICE \$3,406,857.99

CANADIAN RIVER GAS COMPANY AND COLORADO INTERSTATE GAS COMPANY
SUMMARY OF COST OF GAS AT WELL HEAD
YEAR 1939

Account (1)	Cost (2)	Percent (3)
Operation: Gas Wells Labor, Supplies and Expense	\$ 8,119.35	.76
Measuring Stations Labor, Supplies and Expenses	13,993.28	1.32
Maintenance: Gas Wells Equipment	4,234.88	.40
Measuring Station Equipment	9,393.78	.88
Drilling and Cleaning Tools	593.35	.07
Miscellaneous: Gas Well Royalties	354,713.78	33.70
General Expenses (Allocated)	101,253.91	9.62
Annual Accrual For: Depletion and Depreciation of Leaseholds and Gas Well Intangible Costs	44,865.27	4.48
Depreciation of Gas Well Tangible Costs	20,178.20	1.97
Depreciation of Drilling and Cleaning Equipment	1,314.81	.11
Depreciation of Field Measuring Stations	2,493.52	.23
Proportion of Depreciation of General and Undistributed Plant	8,441.00	.60
Annual Accrual For Federal Income Tax: Leaseholds and Gas Wells Intangible Costs	93,761.57	8.90
Gas Well Tangible Costs	16,541.68	1.56
Drilling and Cleaning Equipment	76.64	.01
Field Measuring Stations	1,308.39	.12
Proportion of General and Undistributed Plant	1,799.00	.17
Annual Accrual For Ad Valorem Taxes: Leaseholds and Gas Well Intangible Costs	25,571.84	2.40
Gas Well Tangible Costs	4,511.46	.41
Drilling and Cleaning Equipment	20.90	-
Field Measuring Stations	356.84	.03
Proportion of General and Undistributed Plant	512.99	.05
Annual Accrual For: Texas Gross Receipts Tax	34,220.09	3.24
Corporate Taxes	2,990.29	.23
Labor Taxes	6,595.33	.66
Exploration and Development Costs: Delay Rentals	10,401.58	.98
Non-Productive Well Drilling	29,293.73	2.77
Abandoned Leases	1,878.18	.17
Return on: Leaseholds and Gas Well Intangible Costs	205,723.65	19.56
Gas Well Tangible Costs	36,294.35	3.44
Drilling and Cleaning Equipment	168.16	.02
Field Measuring Stations	2,870.76	.27
Proportion of General and Undistributed Plant	4,127.02	.49
Proportion of Working Capital	4,985.68	.46
Non-Recurring Expenses	267.79	.03
Miscellaneous Gas Royalties	(256.69)	(.02)
Total Cost of Gas at the Well Head	\$1,051,721.34	100.00
MCF of Gas Produced Available for Sale	47,899,622 MCF	
Average Cost per MCF	\$.02196	
Gas Disposed of as follows:		
Amarillo Oil Co. Contract B	4,799,484 MCF	\$ 105,381.20
Amarillo Oil Co. Contract C	184 MCF	4.04
Amarillo Oil Co. Special (Channing, Texas)	10,090 MCF	221.56
Delivered to Gathering System	43,089,864 MCF	946,114.56
Total	47,899,622 MCF	\$1,051,721.34

Exhibit No. 226

TABLE 6

CANADIAN RIVER GAS COMPANY AND COLORADO INTERSTATE GAS COMPANY
SUMMARY OF COST OF PRODUCTION SYSTEM GATHERING
YEAR 1939

Account (1)	Cost (2)	Percent (3)
Operation: Field Lines Labor, Supplies and Expense	\$ 17,555.07	10.29
Field Compressing Station Labor, Supplies & Expense	3,629.72	2.13
Maintenance: Other Production and Gathering Structures	239.60	.14
Field Line Equipment	5,857.33	3.43
Abandonment of Lines	358.90	.21
Field Compressing Station Structures	55.78	.03
Field Compressing Station Equipment	317.49	.19
Miscellaneous: General Expenses (Allocated)	7,251.41	4.25
Annual Accrual for Depreciation: Of Field Lines	30,424.51	17.83
Of Field Compressor Station	730.01	.42
Of Proportion of General and Undistributed Plant	1,708.53	1.00
Annual Accrual for Federal Income Taxes : Field Lines	27,605.40	16.18
Field Compressor Station	370.14	.22
Proportions of General & Undistributed Plant	476.80	.28
Annual Accrual for Ad Valorem Taxes: On Field Lines	7,528.89	4.42
On Field Compressor Station	100.95	.06
On Proportion of General and Undistributed Plant	136.15	.08
Annual Accrual for: Corporate Taxes	793.12	.47
Annual Accrual for: Labor Taxes	472.33	.28
Return on: Field Lines	60,569.42	35.49
Field Compressor Station	812.13	.47
Proportion of General and Undistributed Property	1,095.36	.64
Proportion of Working Capital	2,539.99	1.49
Total Cost of Gathering	170,628.03	100.00
M.C.F. of Gas Gathered	43,089,864	
Average Cost per M.C.F.	\$.00396	

TABLE 7

CANADIAN RIVER GAS COMPANY AND COLORADO INTERSTATE GAS COMPANY
SUMMARY OF COST OF RESIDUALS REFINING
YEAR 1939

Account (1)		Residuals Produced (2)	Expenses (3)	Net Cost (4)
Joint Operation of Texoma Natural Gas Co. Gasoline Plant at Fritch, Texas		(206,523.88)	88,015.19	(118,508.69)
M.C.F. delivered for treatment	20,783,301			
Average cost per M.C.F.	(\$.0057)			
Operation of Respondents Gasoline Plant at Bivins Station		(177,691.35)		
Residuals Produced			83,570.90	
Residuals Operating Expenses*			21,633.15	
General Expenses (Allocated)			11,747.91	
Annual Accrual for Depreciation on Gasoline Plant			372.12	
Annual Accrual for Proportion of Depreciation on General & Undistributed Plant			6,375.06	
Federal Income Taxes and Net Return on Gasoline Plant			104.17	
Proportion of Federal Income Taxes and Net Return on General & Undistributed Plant			1,738.39	
Annual Accrual for Ad Valorem Taxes on Gasoline Plant			29.66	
Annual Accrual for Proportion of Ad Valorem Taxes on General & Undistributed Plant			137.83	
Annual Accrual for Federal Tax on Transportation of Natural Gasoline			1,409.11	
Annual Accrual for Federal Tax on Recovery of Natural Gasoline			172.47	
Annual Accrual for Labor Taxes on Gasoline Plant			13,987.61	
Annual Accrual for Corporate Taxes on Gasoline Plant			238.57	
Return on Net Adjusted Book Cost of Plant			594.66	
Return on Proportion of Net Adjusted Book Cost of General & Undistributed Plant				
Return on Proportion of Working Capital				
Total Operation of Respondents Gasoline Plant at Bivins Station		(177,691.35)	142,111.91	(35,579.44)
M.C.F. delivered for treatment	21,828,939			
Average cost per M.C.F.	(\$.00163)			
Income from the Extraction of Natural Gasoline by the Cannon Gasoline Plant from Gas delivered to the Amarillo Oil Co. at well head				(15,056.24)
M.C.F. delivered for treatment	4,799,484			
Average cost per M.C.F.	(\$.00314)			
Total Cost of Residuals Refining				(169,144.37)

* Note: Operating expenses include charges for shrinkage of gas and for fuel gas used in the operation of the plant.

CANADIAN RIVER GAS COMPANY AND COLORADO INTERSTATE GAS COMPANY
SUMMARY OF COST OF TRANSMISSION
YEAR 1939

Account. (1)	Percent (2)	Cost (3)
Operation of Transmission Lines (Including Dehydration Plant)	3.57	80,826.66
Operation of Compressing System (Labor and Supervision)	4.51	102,346.54
Operation of Compressing System Supplies and Expenses	1.77	40,188.01
Maintenance of Transmission System (Including abandonment of lines and dehydration plant)	3.37	76,259.78
Maintenance of Compressing System Structures	.22	5,053.94
Maintenance of Compressing System Equipment	1.81	41,120.07
Miscellaneous-Joint Expenses Rental of Leased Facilities	10.17	230,507.53
Miscellaneous-Bivins Camp Expense	.46	10,370.39
Miscellaneous-General Expenses-Transmission System (Allocated)	2.27	51,541.96
Miscellaneous-General Expenses-Compressing System (Allocated)	2.82	63,734.29
Annual Accrual for: Depreciation of Transmission Plant (Except Bivins Camp)	13.67	309,623.53
Depreciation of Bivins Camp	.23	5,264.41
Proportion of Depreciation of General and Undistributed Plant	1.06	24,101.82
Annual Accrual for: Federal Income Tax on Transmission Plant (except Bivins Camp)	13.02	294,918.93
Federal Income Tax on Proportion of General and Undistributed Plant	.33	7,509.52
Federal Income Tax on Bivins Camp	.17	3,810.84
Annual Accrual For: Colorado State Income Tax on Transmission Plant	1.17	26,412.80
Colorado State Income Tax on Proportion of General and Undistributed Plant	.03	724.41
Annual Accrual for Ad Valorem Taxes on: Transmission Plant (Except Bivins Camp)	8.27	187,433.34
Bivins Camp	.05	1,039.34
Proportion of General and Undistributed Plant	.22	4,953.92
Gas Plant held for Future Use (Transmission Plant)	.02	351.00
Annual Accrual for Corporate Taxes	.36	8,103.68
Annual Accrual for Labor Taxes	.52	11,835.73
Return on: Net adjusted book cost of Transmission Plant (Except Bivins Camp)	29.24	662,654.28
Proportion of net adjusted book cost of General and undistributed plant	.74	16,672.05
Bivins Camp	.37	8,361.43
Return on Proportion of Working Capital	.31	6,843.55
Rent from Company Dwellings	(.75)	(16,913.12)
Total Cost of Transmission	100.00	\$ 2,265,650.63

*Note: Accruals for Depreciation of Compressing Station Equipment.

Volume of gas transmitted - MCF

21,828,939 MCF.

Average volumetric costs per MCF transmitted

\$.03050

CANADIAN RIVER GAS COMPANY AND COLORADO INTERSTATE GAS COMPANY
SUMMARY OF COST OF TRANSMISSION
YEAR 1939

TABLE 8

Account (1)	Percent (2)	Cost (3)	Volumetric Costs (4)	Capacity Costs (5)	Rental of Leased Facilities Cost (6)
Transmission Lines (Including Dehydration Plant)	3.57	\$ 80,826.66	\$	\$ 80,826.66	
Compressing System (Labor and Supervision)	4.51	102,345.54	51,173.27	51,173.27	
Compressing System Supplies and Expenses	1.77	40,188.01	40,188.01		
Transmission System (Including abandonment of lines and dehydration plant)	3.37	76,259.78		76,259.78	
Compressing System Structures	.22	5,053.94		5,053.94	
Compressing System Equipment	1.81	41,120.07	41,120.07		
Plant Expenses Rental of Leased Facilities	10.17	230,507.53			230,507.53
Bivins Camp Expense	.46	10,370.39		10,370.39	
General Expenses-Transmission System (Allocated)	2.27	51,541.96		51,541.96	
General Expenses-Compressing System (Allocated)	2.82	63,734.29		63,734.29	
Dr: Depreciation of Transmission Plant (Except Bivins Camp)	13.67	309,623.53	48,953.15*	260,670.38	
Depreciation of Bivins Camp	.23	5,264.41		5,264.41	
Proportion of Depreciation of General and Undistributed Plant	1.06	24,101.82		24,101.82	
Dr: Federal Income Tax on Transmission Plant (except Bivins Camp)	13.02	294,918.93	147,459.46	147,459.47	
Federal Income Tax on Proportion of General and Undistributed Plant	.33	7,509.52		7,509.52	
Federal Income Tax on Bivins Camp	.17	3,810.84		3,810.84	
Dr: Colorado State Income Tax on Transmission Plant	1.17	26,412.80	13,206.40	13,206.40	
Colorado State Income Tax on Proportion of General and Undistributed Plant	.03	724.41		724.41	
Dr Ad Valorem Taxes on: Transmission Plant (Except Bivins Camp)	8.27	187,433.34		187,433.34	
Bivins Camp	.05	1,039.34		1,039.34	
Proportion of General and Undistributed Plant	.22	4,953.92		4,953.92	
Gas Plant held for Future Use (Transmission Plant)	.02	351.00		351.00	
Dr Corporate Taxes	.36	8,103.68		8,103.68	
Dr Labor Taxes	.52	11,835.73		11,835.73	
Adjusted book cost of Transmission Plant (Except Bivins Camp)	29.24	662,654.28	331,327.14	331,327.14	
Proportion of net adjusted book cost of General and undistributed plant	.74	16,672.05		16,672.05	
Bivins Camp	.37	8,361.43		8,361.43	
Proportion of Working Capital	.31	6,843.55		6,843.55	
Dr Dwellings	(.75)	(16,913.12)		(16,913.12)	
Total Cost of Transmission	100.00	\$ 2,265,650.63	\$ 673,427.50	\$ 1,361,715.60	\$ 230,507.53

for Depreciation of Compressing Station Equipment.

Volume of gas transmitted - MCF 21,828,939 MCF.
Average volumetric costs per MCF transmitted \$.030650

Exhibit No. 226

TABLE 9

CANADIAN RIVER GAS COMPANY AND COLORADO INTERSTATE GAS COMPANY
SUMMARY OF COST OF DISTRIBUTION
YEAR 1939

Account (1)	Percent (2)	Total Cost (3)	Allocated Equally Per Customer (4)	Allocated on Basis of Adjust- ed Book Cost of Plant as at 12-31-39 (5)
Distribution Operating & Maintenance Expenses	57.90	\$50,947.11	\$11,364.84	\$39,582.27
General Expenses (Allocated)	17.95	15,789.90	3,522.73*	12,267.17*
Equal Accrual for Depreciation of Distribution Plant	6.33	5,573.00		5,573.00
Equal Accrual for Proportion of Depreciation of General and Undistributed Plant	0.45	398.73		398.73
Equal Accrual for Federal Income Taxes on Distribution Plant	8.08	7,111.59		7,111.59
Equal Accrual for Federal Income Taxes on Proportion of General and Undistributed Plant	0.14	127.21		127.21
Equal Accrual for Colorado State Income Taxes on Distribution Plant	0.41	362.62		362.62
Equal Accrual for Colorado State Income Taxes on Proportion of General and Undistributed Plant	.02	14.29		14.29
Equal Accrual for Ad Valorem Taxes on Distribution Plant	2.64	2,326.40		2,326.40
Equal Accrual for Ad Valorem Taxes on Proportion of General & Undistributed Plant	0.10	91.67		91.67
Equal Accrual for Corporate Taxes	0.10	86.24		86.24
Equal Accrual for Labor Taxes	1.28	1,125.27	251.05*	874.22*
Turn on Adjusted Net Book Cost of Distribution Plant	3.57	3,143.80		3,143.80
Turn on Proportion of General & Undistributed Plant	0.32	280.21		280.21
Turn on Proportion of Working Capital	0.71	624.32		624.32
Total Cost of Distribution	100.00	\$88,002.36	\$15,138.62	\$72,863.74

*NOTE: General Expenses and Payroll taxes distributed in proportion to direct expenses.

Exhibit No. 22

TABLE 9 (Continued)

CANADIAN RIVER GAS COMPANY AND COLORADO INTERSTATE GAS COMPANY
SUMMARY OF COST OF DISTRIBUTION
YEAR 1939

Location	Allocated Equally Per Customer	Allocated on Basis of Adjusted Book Cost of Plant	Total Cost
Airport (Colorado Springs, Colo.)	\$ 560.69	\$ 524.62	\$ 1,085.31
American Crystal Sugar Refining Co.	560.69	1,734.16	2,294.85
Apishapa (50% to LaJunta and 50% to Rocky Ford)	560.69	648.49	1,209.18
Arapahoe Measuring Station	560.69	1,311.55	1,872.24
Aurora, Colorado	560.69	1,187.68	1,748.37
Colorado Fuel & Iron Corp.	560.69	7,599.69	8,160.38
Colorado Springs, Colorado	560.69	4,196.95	4,757.64
Denver, Colorado	560.69	24,358.35	24,919.04
Englewood	560.69	1,814.31	2,375.00
Fitzsimmons General Hospital	560.69	1,552.00	2,112.69
Fort Lyon, Colorado	560.69	1,238.66	1,799.37
Fountain Valley School	560.69	786.93	1,347.62
Fowler, Colorado	560.69	663.06	1,223.75
Hawley (Ark. Valley Natural Gas Co.)	560.69	240.45	801.14
La Junta, Colorado	560.69	3,227.86	3,788.55
Las Animas, Colorado	560.69	1,260.54	1,821.23
Littleton, Colorado	560.69	1,253.26	1,813.95
Manitou, Colorado	560.69	646.48	1,207.17
Ordway, Colorado	560.69	728.64	1,289.33
Portland (Colorado Portland Cement Co.), Colo.	560.69	1,930.89	2,491.58
Pueblo, Colorado	560.69	10,404.94	10,965.63
Pueblo County Poor Farm (Pueblo, Colo.)	560.69	167.59	728.28
Rocky Ford, Colorado	560.69	2,389.95	2,950.62
Santa Fe (New)	560.69	1,107.52	1,668.21
Sugar City, Colorado	560.69	568.34	1,129.03
Sullivan, Colorado	560.69	604.77	1,165.46
Thatcher, Colorado (Girdler Corporation)	560.69	714.06	1,274.74
Total Cost of Distribution	\$15,138.62	\$72,863.74	\$88,002.36

COLORADO INTERSTATE GAS COMPANY

STATEMENT SHOWING REVENUES OF COLORADO INTERSTATE GAS COMPANY AVAILABLE FOR THE PURCHASE OF GAS FROM THE CANADIAN RIVER GAS COMPANY (AFTER RETURN OF 6% ON NET ADJUSTED BOOK COST OF PLANT AND WORKING CAPITAL) WITH REVENUES ASSUMED EQUAL TO THE TOTAL COST OF SERVICE TO ITS CUSTOMERS

YEAR 1959COLORADO INTERSTATE GAS COMPANY REVENUES

Total Cost of Service Applicable to Denver Line Revenues

Exhibit Table 1, Lines 1 to 38, Inclusive \$ 2,568,856.85
 Exhibit Table 1, Line 46, Compressor Stations 12,572.28
 Exhibit Table 1, Line 47, Company Dwellings 656.30

Total

\$ 2,582,085.43

Total Cost of Service Applicable to Natural Gas Pipeline Company of America Revenues

650,631.24

Total Colorado Interstate Gas Company Revenues

\$ 3,232,716.67

COLORADO INTERSTATE GAS COMPANY COSTS

Total Cost of Service (Including Cost of Gas Purchased as Determined by Examiners of the Commission)

\$ 3,956,706.06

Less Amount Included for Gas Purchased for Resale

2,112,950.70

Less Amount Included for Gas Purchased for Use

13,379.21

Net Cost of Service Except for Gas Purchased

\$ 1,830,376.15

NET AVAILABLE FOR COST OF GAS PURCHASED FROM CANADIAN RIVER GAS COMPANY

\$ 1,408,340.92

OPERATING REVENUE DEDUCTIONS

Gas Purchased for Resale

Operating Expenses

Natural Gas Production
 Natural Gas Transmission
 Natural Gas Distribution
 Administrative & General Expenses

Total Operating Expenses

Depreciation

Natural Gas Production
 Natural Gas Transmission
 Natural Gas Distribution
 Natural Gas General
 Gas Plant Held for Future Use (Transmission)

Total Depreciation

Depletion

Natural Gas Production

Total Depletion

Notes: (1) Eliminated in consolidation.

(2) Allocated to production, transmission, and distribution.

(3) Gas purchased Inter Company for use is not eliminated in consolidation.

Consolidated Canadian River Gas Co. & Colorado Interstate Gas Co.	Colorado Interstate Gas Co.	Canadian River Gas Co.
(1)	\$ 2,112,950.70	
\$ 321,619.38		199,728.32
701,949.17	\$70,554.30	321,869.98
66,737.01	50,947.11	
(2)	103,517.22	143,688.63
\$ 1,090,305.56	\$ 425,012.63	\$ 665,286.93
66,888.96		66,888.96
314,887.94	240,152.54(3)	74,735.40
5,573.00	5,573.00	
33,022.20	20,659.43	12,362.77
\$ 420,372.10	\$ 266,384.97	\$ 153,987.13
44,865.27		44,865.27
\$ 44,865.27		\$ 44,865.27

Taxes	Consolidated Canadian River Gas Co. & Colorado Interstate Gas Co.		Colorado Interstate Gas Co.		Canadian River Gas Co.	
Federal Income	\$ 457,929.15		\$ 391,526.13		\$ 66,403.02	
State of Colorado Income	27,514.12		27,514.12		-	
State of Texas Gross Receipts	34,220.09				34,220.09	
Property	236,704.04		176,869.51		59,834.53	
Labor	21,437.77		11,304.71		10,133.06	
Corporate and Miscellaneous	12,285.63		7,733.30		4,550.33	
Total Taxes	\$ 790,088.80		\$ 614,947.77		\$ 175,141.03	
Non-Recurring Expenses	267.79		45.19		222.60	
TOTAL OPERATING REVENUE DEDUCTIONS	\$ 2,345,899.52		\$ 3,419,347.26		\$ 1,039,502.96	
EXPLORATION AND DEVELOPMENT COSTS						
Delay Rentals	10,401.58		-		10,401.58	
Non-Productive Well Drilling	29,293.73		-		29,293.73	
Abandoned Leases	1,878.18		-		1,878.18	
TOTAL EXPLOATION AND DEVELOPMENT COSTS	\$ 41,573.49		-		\$ 41,573.49	
RENT FROM COMPANY-OWNED WELLS (Transmission Revenues)	(16,913.12)		(8,787.00)		(8,126.12)	
MISCELLANEOUS GAS FORTALITIES (Production Revenues)	(256.69)		-		(256.69)	

(Continued on next page)

RETURN AT 6% ON NET BOOK COST ADJUSTED
OF GAS PLANT IN SERVICE

	Consolidated Canadian River Gas Co. & Colorado Interstate Gas Co.	Colorado Interstate Gas Co.	Canadian River Gas Co.
Natural Gas Production	\$ 320,426.08		\$ 320,426.08
Natural Gas Transmission	67,015.71	\$ 518,003.00	153,012.71
Natural Gas Distribution	7,111.59	7,111.59	
Natural Gas General	22,413.21	14,487.31	7,925.90
TOTAL RETURN ON PLANT	\$ 1,020,966.59	\$ 539,601.90	\$ 481,364.69
Natural Gas Production	\$ 8,120.33		\$ 8,120.33
Natural Gas Transmission	6,843.55	5,919.58	923.97
Natural Gas Distribution	624.32	624.32	
TOTAL RETURN ON WORKING CAPITAL	\$ 15,588.20	\$ 6,543.90	\$ 9,044.30
TOTAL COST OF SERVICE	\$ 3,406,857.99	\$ 3,956,706.06	\$ 1,563,102.63

		(1)	(2)	(3)	(4)	(5)	(6)
1	TRANSMISSION SALES						
2	<u>Direct Industrial Sales</u>						
3	Colorado Fuel & Iron Corp.	Pueblo, Colo.	-	-	19,571,830	19,571,830	
4	American Crystal Sugar Co.	Rocky Ford, Colo.	-	-	1,169,109	1,169,109	
5	Atchison, Topeka & Santa Fe R.R.	La Junta, Colo.	-	-	1,267,854	1,267,854	
6	Colorado Portland Cement Co.	Portland, Colo.	-	-	5,102,132	5,102,132	
7	The Girdler Corp.	Thatcher, Colo.	-	-	941	941	
8	Total Direct Industrial Sales		-	-	27,111,666	27,111,666	
9	<u>Sales to Public Authorities</u>						
10	U. S. Dept. of Interior	Thatcher, Colo.	1,650	-	-	1,650	
11	Veterans Administration	Fort Lyon, Colo.	672,736	-	-	672,736	
12	Total Sales to Public Authorities		674,386	-	-	674,386	
13	<u>Sales to Other Gas Utilities</u>						
14	Arkansas Valley Nat. Gas Co.	Fort Lyon, Colo.	2,667	156	-	2,823	
15		Fountain Valley, Colo.	-	(1,579)	48,808	47,229	
16		Fowler, Colo.	18,894	(509)	1,384	19,769	
17		Las Animas, Colo.	85,485	2,479	4,663	72,627	
18		Mansanola, Colo.	6,770	164	4,267	11,221	
19		Ordway, Colo.	14,692	70	12,934	27,896	
20		Sugar City, Colo.	2,224	219	-	2,443	
21	Total Arkansas Valley Nat. Gas Co.		110,932	1,020	72,068	184,008	
22	Citizens Utilities Co.	La Junta, Colo.	142,181	28,237	60,621	230,939	
23		Rocky Ford, Colo.	115,044	18,297	21,991	153,329	
24		Adjustments	(208)	1,384	(738)	438	
25	Total Citizens Utilities Co.		256,014	47,918	81,774	384,706	
26	City of Colorado Springs	Colorado Springs, Colo.	993,964	*	1,385,964	2,379,928	
27	Colorado Wyoming Gas Co.		3,203,393	*	4,814,916	8,018,309	
28	Pueblo Gas & Fuel Co.	Pueblo, Colo.	947,175	*	372,845	1,320,020	
29	Public Service Co. of Colo.	Aurora, Colo.	70,049	*	-	70,049	
30		Denver, Colo.	12,113,208	*	5,979,672	18,092,880	
31		Englewood, Colo.	216,826	*	-	216,826	
32		Fitzsimmons Hospital	25,861	*	935,730	961,591	
33		Littleton, Colo.	63,830	*	11,174	75,004	
34		Sullivan, Colo.	660	*	5,581	6,241	
35		U. S. Army Air School, Denver, Colo.	4,157	*	-	4,157	
36	Total Public Service Co. of Colo.		12,494,590	*	6,932,157	19,426,747	
37	Total Sales to Other Gas Utilities		18,054,006	*	13,859,712	31,713,718	
38	<u>Sales to Associated Gas Utilities</u>						
39	Clayton Gas Co.	Clayton, N. M.	144,081	13,979	125,707	283,767	
40	Amarillo Oil Co. (Special)	Hartley, Tex.	12,040	1,881	2,569	16,490	
41		Dalhart, Tex.	345,742	38,602	735,951	1,120,295	
42		Texline, Tex.	17,759	1,430	8,390	27,569	
43	Total Associated Gas Utilities		519,622	55,892	872,607	1,448,121	
44	<u>Interdepartmental Sales</u>						
45	Gas Used in Company Operations	Compressor Stations	-	-	1,286,413	1,286,413	
46		Company Dwellings	81,522	-	-	81,522	
47		Dehydration Plant	-	-	7,096	7,096	
48	Total Interdepartmental Sales		81,522	-	1,293,509	1,375,031	
49	TOTAL TRANSMISSION SALES - (DENVER LINE)				19,365,426	42,937,194	62,322,922
50	PRODUCTION SYSTEM SALES						
51	<u>Sales to Other Gas Utilities</u>						
52	Natural Gas Pipeline of America	Fritch Sta., Tex.				60,322,266	
53	<u>Sales to Associated Gas Utilities</u>						
54	Amarillo Oil Co. (At the Wells)	Contract "B"				15,179,006	
55	" " " " " "	Contract "C"				526	
56	" " " " " "	Special				32,211	
57	Total Associated Gas Utilities	Charming, Texas				18,211,742	
58	<u>Interdepartmental Sales</u>						
59	Gas Used in Company Operations	Compressor Station				3,640	
60		Gasoline Plant				994,429	
61		Field Operations				4,1259	
62		Company Dwellings				2,803	
63	Total Interdepartmental Sales					1,422,131	
64	TOTAL PRODUCTION SYSTEM SALES					76,956,139	
65	TOTAL TRANSMISSION & PRODUCTION SYSTEM SALES					139,279,061	

* Gas Lost is included in Domestic and Commercial Classification.

TABLE 1

2347
Exhibit No. 22

CONSOLIDATED STATEMENT OF GAS HANDLED FOR THREE YEARS - 1937, 1938, 1939

(All Figures on Uniform Base of 14.68¢ Sq. In. Absolute)

(1)	Three-year Total (2)
(1) <u>GAS DISBURSEMENTS</u>	
(2) Total Transmission and Production System Sales	139,279,061
(3) Free Gas to Lessors	25,967
(4) Leakage and Unaccounted For	(3,423,314)*
(5) Total Disbursements	<u>135,876,714</u>
(6) <u>GAS RECEIPTS</u>	
(7) Gas Produced	135,876,714
(8) Gas Purchased	-
(9) Total Receipts	<u>135,876,714</u>

* Includes 49,568 M.C.F. gas delivered in exchange and 6,354 M.C.F. as an adjustment.

CANADIAN RIVER GAS COMPANY AND COLORADO INTERSTATE GAS COMPANYSUMMARY OF COST OF SERVICETOTAL 3 YEARS - 1937, 1938 & 1939

	<u>Cost</u>
<u>OPERATING REVENUE DEDUCTIONS</u>	
<u>Operating Expenses</u>	
Natural Gas Production	\$ 910,424.37
Natural Gas Transmission	2,004,639.51
Natural Gas Distribution	.194,883.80
Total Operating Expenses	<u>3,109,967.68</u>
<u>Depreciation</u>	
Natural Gas Production	196,271.01
Natural Gas Transmission	932,691.53
Natural Gas Distribution	16,313.57
Natural Gas General	94,416.14
Gas Plant Held for Future Use (Transmission)	606.82
Total Depreciation	<u>1,240,298.07</u>
<u>Depletion</u>	
Natural Gas Production	120,387.52
<u>Taxes</u>	
Federal Income	1,235,001.62
State of Colorado Income	54,183.80
State of Texas Gross Receipts	100,122.46
Property	688,904.75
Labor	58,002.80
Corporate and Miscellaneous	35,309.36
Total Taxes	<u>2,171,524.78</u>
<u>Non-Recurring Expenses</u>	12,869.42
 TOTAL OPERATING REVENUE DEDUCTIONS	 <u>\$6,655,037.47</u>
<u>EXPLORATION AND DEVELOPMENT COSTS</u>	
Delay Rentals	48,695.84
Non-Productive Well Drilling	29,293.73
Abandoned Leases	<u>2,552.48</u>
 TOTAL EXPLORATION AND DEVELOPMENT COSTS	 <u>\$ 80,542.06</u>

Exhibit No. 200

TABLE 3 (Continued)

	<u>Cost</u>
RENT FROM COMPANY DWELLINGS (Transmission Revenues)	(47,392.06)
MISCELLANEOUS GAS ROYALTIES (Production Revenues)	(764.87)
RETURN AT 6% ON NET BOOK COST - ADJUSTED OF GAS PLANT IN SERVICE	
Natural Gas Production	943,646.20
Natural Gas Transmission	2,035,989.98
Natural Gas Distribution	21,765.34
Natural Gas General	<u>67,680.32</u>
TOTAL RETURN ON PLANT	3,069,082.14
RETURN AT 6% ON WORKING CAPITAL	
Natural Gas Production	24,360.99
Natural Gas Transmission	20,530.65
Natural Gas Distribution	<u>1,872.96</u>
TOTAL RETURN ON WORKING CAPITAL	46,764.60
TOTAL COST OF SERVICE	<u><u>39,803,269.33</u></u>

CANADIAN RIVER GAS COMPANY AND COLORADO INTERSTATE GAS COMPANY
SUMMARY OF COST OF GAS AT WELL HEAD
TOTAL 3 YEARS 1937, 1938 and 1939.

2355

Exhibit No.

TABLE

Account (1)	Cost (2)	Percent (3)
Operation: Gas Wells Labor, Supplies and Expense	\$ 21,046.23	.71
Measuring Stations Labor, Supplies and Expense	38,885.35	1.31
Maintenance: Gas Wells Equipment	35,891.61	1.20
Measuring Station Equipment	23,141.54	.78
Drilling and Cleaning Tools	1,254.03	.04
Miscellaneous: Gas Well Royalties	1,015,189.81	34.24
General Expenses (Allocated)	283,806.29	8.54
Three-Year Accrual for: Depletion & Depreciation of Leaseholds & Gas Well Intangible Costs	120,337.82	4.07
Depreciation of Gas Well Tangible Costs	55,351.22	1.88
Depreciation of Drilling and Cleaning Equipment	4,860.37	.16
Depreciation of Field Measuring Stations	7,345.00	.25
Proportion of Depreciation of General and Undistributed Plant	16,805.88	.53
Three-Year Federal Income Taxes on: Leaseholds and Gas Wells Intangible Costs	252,868.13	8.58
Gas Well Tangible Costs	44,611.72	1.51
Drilling and Cleaning Equipment	206.70	.01
Field Measuring Stations	3,528.63	.12
Proportion of General and Undistributed Plant	4,851.77	.16
Three-Year Accrual for Ad Valorem Taxes: Leaseholds and Gas Well Intangible Costs	72,547.34	2.45
Gas Well Tangible Costs	12,799.01	.43
Drilling and Cleaning Equipment	59.30	---
Field Measuring Stations	1,012.36	.03
Proportion of General and Undistributed Plant	1,455.38	.05
Three-Year Accrual for: Texas Gross Receipts Tax	100,122.45	3.38
Corporate Taxes	8,875.57	.32
Labor Taxes	17,925.87	.62
Exploration and Development Costs: Delay Rentals	48,695.84	1.66
Non-Productive Well Drilling	29,295.73	1.00
Abandoned Leases	2,532.48	.10
Return on: Leaseholds and Gas Well Intangible Costs	606,850.61	20.49
Gas Well Tangible Costs	106,885.90	3.62
Drilling and Cleaning Equipment	495.24	.02
Field Measuring Stations	8,454.31	.28
Proportion of General & Undistributed Plant	12,153.98	.41
Proportion of Working Capital	14,987.04	.50
Non-Recurring Expenses:	12,869.42	.43
Miscellaneous Gas Royalties	(784.87)	(.03)
Total Cost of Gas at Well Head	\$2,957,999.35	100.00

M.C.F. of Gas Produced Available for Sale 139,279,061
Average Cost per M.C.F. \$.02124

Gas Disposed of as Follows:

Amarillo Oil Co.	Contract "B"	15,179,005 MCF	\$ 332,370.69
" " "	Contract "C"	526	11.17
" " "	Special Channing, Texas	32,211	684.10
Delivered to Gathering System		124,067,819	2,634,933.42
Total		139,279,061 MCF	\$ 2,957,999.35

CANADIAN RIVER GAS COMPANY AND COLORADO INTERSTATE GAS COMPANY
SUMMARY OF COST OF PRODUCTION SYSTEM GATHERING
TOTAL 3 YEARS 1937, 1938 and 1939

Exhibit No. 228

TABLE 5

ACCOUNT (1)	COST (2)	PERCENT (3)
Operation:		
Field Lines Labor, Supplies & Expense	51,247.60	10.41
Field Compressing Station Labor, Supplies & Expense	9,119.28	1.85
Maintenance:		
Other Production and Gathering Structures	343.38	.07
Field Line Equipment	20,944.73	4.27
Abandonment of Lines	1,620.40	.33
Field Compressing Station Structures	64.71	.01
Field Compressing Station Equipment	736.43	.15
Miscellaneous: General Expenses (Allocated)	18,732.27	3.81
Three-Year Accrual for Depreciation:		
Of Field Lines	88,183.52	17.91
Of Field Compressor Station	2,215.05	.45
Of Proportion of General and Undistributed Plant	5,014.34	1.02
Three-Year Federal Income Taxes:		
Field Lines	74,449.76	15.14
Field Compressor Station	998.24	.20
Proportion of General and Undistributed Plant	1,285.88	.26
Three-Year Accrual for Ad Valorem Taxes:		
Field Lines	21,359.48	4.33
Field Compressor Station	286.39	.06
Proportion of General and Undistributed Plant	386.27	.08
Three-Year Accrual for: Corporate Taxes	2,273.93	.47
Three-Year Accrual for: Labor Taxes	1,322.46	.26
Return on:		
Field Lines	178,375.32	36.24
Return on:		
Field Compressor Station	2,391.70	.49
Return on:		
Proportion of General & Undistributed Property	3,225.80	.65
Return on:		
Proportion of Working Capital	7,619.97	1.54
Total Cost of Gathering	492,196.89	100.00

M.C.F. of Gas Gathered 124,067,319
Average Cost per M.C.F. \$.00396

Exhibit No. 228

TABLE 6

CANADIAN RIVER GAS COMPANY AND COLORADO INTERSTATE GAS COMPANY
SUMMARY OF COSTS OF RESIDUALS REFINING
TOTAL THREE YEARS, 1937, 1938 and 1939

Account (1)		Residuals Produced (2)	Expenses (3)	Net Cost (4)
1 Joint Operation of Texoma Natural Gas Co. Gasoline Plant at Fritch, Texas				
2 M.C.F. delivered for treatment	60,322,266	\$(573,946.33)	\$247,590.62	\$(326,355.71)
3 Average Cost per M.C.F.	(\$.0054)			
4 Operation of Respondents Gasoline Plant at Bivins Station				
5 Residuals Produced		(511,104.52)		
6 Residuals Operating Expenses			251,794.97	
7 General Expenses (Allocated)			56,021.23	
8 Three-year Accrual for Depreciation on Gasoline Plant			35,085.25	
9 Three-year Accrual for Proportion of Depreciation of General and Undistributed Plant			1,092.13	
10 Three-year Accrual for Federal Income Taxes on Gasoline Plant			17,193.06	
11 Three-year Accrual for Proportion of Federal Income Taxes on General and Undistributed Plant			280.95	
12 Three-year Accrual for Ad Valorem Taxes on Gasoline Plant			4,932.65	
13 Three-year Accrual for Proportion of Ad Valorem Taxes on General and Undistributed Plant			84.13	
14 Three-year Accrual for Federal Tax on Transportation of Natural Gasoline			265.98	
15 Three-year Accrual for Federal Tax on Recording of Natural Gasoline			220.58	
16 Three-year Accrual for Labor Taxes on Gasoline Plant			3,972.63	
17 Three-year Accrual for Corporate Taxes on Gasoline Plant			494.48	
18 Three-year Return on Net Adjusted Book Cost of Gasoline Plant			41,193.12	
19 Three-year Return on Proportion of Net Adjusted Book Cost of General and Undistributed Plant			702.58	
20 Three-year Return on Proportion of Working Capital			1,783.98	
21 Total Operation of Respondents Gasoline Plant at Bivins Station	(511,104.52)		415,117.72	(95,986.80)
22 M.C.F. delivered for treatment	62,322,922			
23 Average Cost per M.C.F.	(\$.0015)			
24 Income from the Extraction of Natural Gasoline by the Cannon Gasoline Plant for gas delivered to the Amarillo Oil Co. at well head				(48,655.79)
M.C.F. delivered for treatment	15,179,005			
Average Cost per M.C.F.	(\$.0032)			
Total Cost of Residuals Refining				\$(470,998.30)

Note: Operating expenses include charges for shrinkage of gas and for fuel gas used in the operation.

TABLE 7

CANADIAN RIVER GAS COMPANY AND COLORADO INTERSTATE GAS COMPANY

SUMMARY OF COST OF TRANSMISSION

TOTAL THREE YEARS, 1937, 1938 and 1939

Line	(1)	Percent (2)	Cost (3)	Volumetric Costs (4)	Capacity	Rental of Leased Facilities Costs (6)
					Costs (5)	
1.	Operation of Transmission Lines (Including Dehydration Plant)	3.65	\$ 239,633.91		\$ 239,633.91	
2.	Operation of Compressing System (Labor and Supervision)	4.55	299,076.33	\$ 149,538.16	149,538.17	
3.	Operation of Compressing System Supplies and Expenses	1.92	126,282.99	126,282.99		
4.	Maintenance of Transmission System (Including Abandonment of Lines and Dehydration Plant)	3.28	215,432.58		215,432.58	
5.	Maintenance of Compressing System Structures	.26	16,832.68		16,832.68	
6.	Maintenance of Compressing System Equipment	1.78	117,149.24	117,149.24		
7.	Miscellaneous - Joint Expenses Rental of Leased Facilities	10.06	661,012.02			\$ 661,012.02
8.	Miscellaneous - Bivins Camp Expense	.49	32,310.89		32,310.89	
9.	Miscellaneous - General Expenses - Transmission System (Allocated)	1.99	130,675.18		130,675.18	
10.	Miscellaneous - General Expenses - Compressing System (Allocated)	2.53	166,233.69		166,233.69	
11.	Three-year Accrual for Depreciation of Transmission Plant (Except Bivins Camp)	14.00	919,319.45	\$142,176.80	777,142.65	
12.	Depreciation of Bivins Camp	.21	13,977.90		13,977.90	
13.	Proportion of Depreciation of General and Undistributed Plant	1.04	68,284.13		68,284.13	
14.	Federal Income Tax on Transmission Plant (except Bivins Camp)	12.12	795,374.89	397,687.44	397,687.45	
15.	Proportion of General & Undistributed Plant	.31	20,252.64		20,252.64	
16.	Bivins Camp	.16	10,277.57		10,277.57	
17.	Colorado State Income Tax on Transmission Plant	.79	52,014.96	26,007.48	26,007.48	
18.	Proportion of General and Undistributed Plant	.02	1,426.59		1,426.59	
19.	Ad Valorem Taxes on Transmission Plant (Except Bivins Camp)	8.35	548,395.11		548,395.11	
20.	Bivins Camp	.05	2,948.61		2,948.61	
21.	Proportion of General and Undistributed Plant	.22	14,510.85		14,510.85	
22.	Gas Plant Held for Future Use (Transmission Plant)	.02	1,030.29		1,030.29	
23.	Corporate Taxes	.35	23,233.77		23,233.77	
24.	Labor Taxes	.48	31,691.68		31,691.68	
25.	Return on Net Adjusted Book Cost of Transmission Plant (Except Bivins Camp)	30.64	2,011,365.80	1,005,682.90	1,005,682.90	
26.	Bivins Camp	.37	24,624.18		24,624.18	
27.	Proportion of General and Undistributed Plant	.77	50,740.68		50,740.68	
28.	Proportion of Working Capital	.31	20,530.65		20,530.65	
29.	Rent From Company Dwellings	(.72)	(47,392.06)		(47,392.06)	
30.	Total Cost of Transmission	100.00	\$5,567,247.20	\$1,964,525.01	\$3,941,710.17	\$661,012.02
31.	Average Cost per year				\$1,313,903.39	\$220,337.34

Note: Accruals for Depreciation of Compressing Station Equipment

Volume of gas transmitted 62,322,922 M.C.F.

Average Volumetric Costs per M.C.F. transmitted \$.031522

Exhibit No. 228

TABLE 8

CANADIAN RIVER GAS COMPANY AND COLORADO INTERSTATE GAS COMPANY
SUMMARY OF COST OF DISTRIBUTION
TOTAL THREE YEARS - 1937, 1938 and 1939

Account (1)	Percent (2)	Total Cost (3)	Allocated Equally Per Customer (4)	Allocated on Basis of Adjusted Book Cost of Plant as at 12-31-39 (5)
1 Distribution Operating and Maintenance Expense	59.12	151,842.92	31,033.76	120,809.16
2 General Expenses (Allocated)	16.76	43,050.88	8,833.54	34,217.34
3 Three year accrual for Depreciation of Distribution Plant	6.35	16,313.57		16,313.57
4 Three year accrual for Proportion of Depreciation of General and Undistributed Plant	.44	1,121.96		1,121.96
5 Three year Federal Income Taxes on Distribution Plant	3.30	8,478.60		8,478.60
6 Three year Federal Income Taxes on Proportion of General & Undistributed Plant	.13	343.08		343.08
7 Three year Accrual for Colorado State Income Tax on Distribution Plant	.28	714.11		714.11
8 Three year Accrual for Colorado State Income Tax on Proportion of General & Undist. Plant	.01	28.14		28.14
9 Three year Accrual for Ad Valorem Taxes on Distributed Plant	2.66	6,828.52		6,828.52
10 Three year Accrual for Ad Valorem Taxes on Proportion of General & Undistributed Plant	.10	269.06		269.06
11 Three year Accrual for Corporate Taxes	.10	247.25		247.25
12 Three year Accrual for Labor Taxes	1.20	3,090.16	632.12	2,458.04
13 Return on Adjusted Net Book Cost of Distribution Plant	8.48	21,765.34		21,765.34
14 Return on Proportion of General & Undistributed Plant	.34	857.61		857.61
15 Return on Proportion of Working Capital	.73	1,872.96		1,872.96
16 Total Cost of Distribution	100.00	256,824.16	40,499.42	216,324.74

COLORADO WYOMING GAS CO.

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TAB 9 2

TOTAL VOLUME OF GAS SALES DELIVERIES DURING THREE CALENDAR YEARS 1937, 1938, 1939
(All figures in M.C.F. at uniform base of 14.65⁺ Sq. In. absolute)

EXHIBIT 228

Name of Customer (1)	Location of Service (2)	Domestic and Commercial (3)	Gas Lost* (4)	Industrial (5)	Total (6)
<u>Residential Sales - Right-of-way Customers</u>	(In Colo.)	10,245	-	-	10,245
<u>Commercial Sales - Green Gables Country Club</u>	Denver	6,767	-	-	6,767
<u>Direct Industrial Sales</u>					
Amerada Petroleum Co.	Cheyenne, Wyo.	-	-	35,102	35,102
Adolph Coors	Golden, Colo.	-	-	32,692	32,692
Board of Water Commissioners of Denver	Marston Lk. Colo.	-	-	24,779	24,779
Colorado Portland Cement Co.	LaPorte, Colo.	-	-	2,284,217	2,284,217
Continental Oil Co.	Wellington Fld. Colo.	-	-	12,799	12,799
Denver Pressed Brick Co.	Loveland, Colo.	-	-	107,271	107,271
Great Western Sugar Co.	Johns'n, Colo.	-	-	847,785	847,785
Golden Fire Brick Co.	Golden, Colo.	-	-	185,141	185,141
Kuner Rapsan Co.	Brighton, Colo.	-	-	92,771	92,771
Producer's Canning Co.	Ft. Collins, Colo.	-	-	1,804	1,804
Public Service Co. of Colorado	Valmont Plant near Boulder, Colo.	-	-	30,224	30,224
International Metal Foundation	Denver, Colo.	-	-	3,367	3,367
Thomas Eate & Sons	Denver, Colo.	-	-	68	68
Total Direct Industrial Sales		-	-	3,658,020	3,658,020
<u>Sales to U.S. War Department</u>					
Ft. Logan	Ft. Logan, Colo.	-	-	21,879	21,879
Ft. Warren	Ft. Warren, Wyo.	-	-	45,839	45,839
Total War Department Sales		-	-	67,718	67,718
<u>Sales to Non-Associated Gas Utilities</u>					
Greeley Gas & Fuel Co.	Greeley, Colo.	361,745	*	52,256	414,001
Highway Gas Co.	Loveland, Colo.	20,396	*	-	20,396
Total Non-Associated Gas Utilities Sales		382,141	*	52,256	434,397
<u>Sales to Associated Gas Utilities</u>					
Cheyenne Light, Fuel & Power Co.	Cheyenne, Wyo.	1,057,006	*	149,586	1,206,592
Public Service Co. of Colorado	Denver Fringe	176,611	*	294,224	470,835
	Golden, Colo.	112,862	*	227,237	340,099
	Boulder, Colo.	407,547	*	29,142	436,689
	Brighton, Colo.	63,272	*	4,620	67,892
	Ft. Lupton, Colo.	24,482	*	-	24,482
	Longmont, Colo.	96,745	*	3,567	100,312
	Berthoud, Colo.	13,418	*	-	13,418
	Johnstown, Colo.	20,323	*	-	20,323
	Loveland, Colo.	86,031	*	19,608	105,639
	Ft. Collins, Colo.	739,590	*	279,099	1,018,689
Total Associated Gas Utilities Sales		2,797,877	*	1,007,083	3,804,960
Unbilled Revenue Change - Net	Various Points, Colo. and Wyo.	8,026	*	1,404	9,430
TOTAL GAS SALES		3,205,056	*	4,786,481	7,991,537

*Gas Lost included in Domestic and Commercial Classification

COLORADO WYOMING GAS COMPANY

STATEMENT OF GAS HANDLED - THREE YEARS - 1937, 1938, 1939
(ALL FIGURES ON UNIFORM BASE OF 14.65¢ Bq. In. Absolute)

Particulars (1)	Location of Purchase (2)	Three-year Total (3)
(1) <u>GAS DISBURSEMENTS</u>		
(2) Net Transmission System Sales		7,982,107
(3) Unbilled Revenue Adjustment		9,430
(4) Total Sales		<u>7,991,537</u>
(5) Gas Used in Company Operations		95,103
(6) Leakage and Unaccounted For		90,828
(7) Total Disbursements		<u><u>8,177,468</u></u>

(8) <u>GAS RECEIPTS</u>		
(9) <u>Gas Purchased</u>		
(10) Colorado Interstate Gas Co.		7,822,948
(11) Resale to Others		9,430
(12) Unbilled Revenue Change-Net		95,103
(13) Use in Company Operations		90,828
(14) System Losses		
(15) Total Colorado Interstate Gas Co.		<u>8,018,309</u>
(16) Goodstein Pipeline Co.	Arapahoe Sta.	
(17) Resale to Others	Berthoud Field	
(18) Ed Mosher	Berthoud Field	155,686
(19) Resale to Others		3,191
(20) Ft. Collins Producing Co.	Wellington Field	
(21) Resale to Others		282
(22) Total Receipts		<u><u>8,177,468</u></u>

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TABLE 20

EXHIBIT 228

EXHIBIT 228

Table 11

COLORADO WYOMING GAS COMPANYSUMMARY OF COST OF SERVICETHREE YEARS - 1937, 1938 & 1939OPERATING REVENUE DEDUCTIONSGas Purchased for Resale

1,377,107.84

Operating Expenses

Natural Gas Transmission)

125,425.36

Natural Gas Distribution)

78,038.40

General and Administrative

Total Operating Expenses

203,463.76

Depreciation

Natural Gas Transmission

106,384.80

Natural Gas Distribution

4,601.05

Natural Gas General

2,813.46

Gas Plant Held for Future Use (Transmission)

118.35

Total Depreciation

113,817.66

Taxes

168,626.94

Non Recurring Expenses

3,011.29

TOTAL OPERATING REVENUE DEDUCTIONS

1,866,027.49

RETURN AT 6% ON NET BOOK COST-ADJUSTED OF
GAS PLANT IN SERVICE

Natural Gas Transmission

231,296.77

Natural Gas Distribution

6,482.88

Natural Gas General & Intangible Plant

1,173.73

TOTAL RETURN ON PLANT

238,933.18

RETURN AT 6% ON WORKING CAPITAL

Natural Gas Transmission

1,363.95

TOTAL RETURN ON WORKING CAPITAL

1,363.95

TOTAL COST OF SERVICE

2,106,324.62

ADJUSTMENT IN COST OF GAS PURCHASED FOR RESALE

Less Gas Purchased for Resale Above

1,377,107.84

Plus Gas Purchased for Resale Adjusted

Not determined

TOTAL COST OF SERVICE

Not determined

COLORADO-WYOMING GAS COMPANY
 SUMMARY OF COST OF DISTRIBUTION
 THREE YEARS, 1937-1938-1939

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TABLE 13

EXHIBIT 228

(1)	Percent (2)	Cost (3)	Equally Per Customer (4)	Adjusted Book Cost of Plant (5)
1. Measuring Stations Operations	40.11	\$21,850.76	\$21,850.76	
2. " " Maintenance	2.69	1,466.30		\$1,466.30
3. Proportion of General Expenses	27.21	14,820.27	13,894.00	926.27
4. Annual Accrual for Depreciation of Distribution Plant	8.26	4,501.05		4,501.05
5. Proportion of Annual Accrual for Deprecia- tion of General Plant	0.14	75.96		75.96
6. Distribution Plant Property Taxes	3.84	2,092.52		2,092.52
7. Proportion of General and Intangible Plant Property Taxes	0.02	10.26		10.26
8. Payroll Taxes	1.48	803.90	753.66	50.24
9. Miscellaneous Taxes	0.33	190.02		180.02
10. Federal Income Tax on Distribution Plant	3.61	1,968.85		1,968.85
11. State of Colorado Income Taxes	0.36	193.73		198.73
12. Proportion of Federal Income Taxes on General and Intangible Plant	0.02	9.65		9.65
13. Proportion of State of Colorado Income Taxes on General and Intangible Plant	11.87	6,162.86		97
14. Return on Distribution Plant				6,162.88
15. Return on Proportion of General and Intangible Plant	.06	31.69		31.69
16. Total Cost of Distribution	100.00	\$54,473.61	\$36,198.12	\$17,975.19

Note: General Expenses and Payroll Taxes allocated in proportion to direct expenses.

[Testimony of WILLIAM H. LYON]

Direct Examination.

By Mr. Lange:

Q. Will you state your name, please?

A. William H. Lyon.

Q. What is your professional occupation, Mr. Lyon?

A. Senior gas Engineer in the Division of Gas Engineering of the Federal Power Commission.

Q. How long have you been so employed?

A. Since December 1938.

Q. In connection with that employment I will ask you, Mr. Lyon, whether you have previously been engaged in similar occupations?

A. I have been a gas engineer for a natural gas company.

Q. Have you prepared a statement showing your qualifications in that particular character of work?

A. I have.

Q. Will you proceed to read that, please?

A. "Formal Education: Completed grade and high schools in Mississippi. Attended the Mississippi State College in the School of Engineering and graduated in 1929 with the degree of Bachelor of Science with Honors in Mechanical Engineering. Graduate of the LaSalle Extension University correspondence course in Higher Accountancy in 1931. Also completed a special post graduate coaching course in Public Utility Accounting Problems offered by correspondence by the LaSalle Extension University.

Experience in Natural Gas Industry: Immediately upon graduating from college in 1929, I entered the employ of the Arkansas Natural Gas Corporation as Cadet or Junior Engineer, at Shreveport, Louisiana, taking the Cadet Engineering Training Course offered by that Company. During the training period I was assigned to the operating departments of various subsidiary companies of that Company, and was engaged in an intensive training course involving all of the branches of business conducted by the group of companies.

The principal business of those companies has been the production, transportation and distribution of natural gas.

and the production, transportation, refining and marketing of petroleum and its products in the States of Arkansas, Louisiana and Texas. The group of companies owned oil and gas producing properties, oil pipe line systems, gas pipe lines, oil refineries, gasoline extraction plants, natural gas distribution systems, and marketing of gasoline and other petroleum products. This training course covered the major portion of these properties either directly or through association with others.

Upon leaving this training course I was assigned to the general offices of the company in Shreveport, Louisiana, as an engineering assistant to one of the executive officers of the corporation. Subsequent to this, the company placed me in the general office Rate and Valuation Department as Valuation and Rate Engineer for the group of companies. The number of employees under my supervision in the office varied with the amount of work in progress, but in latter years generally ranged from 10 to 15 persons. During my employment in this capacity it was a part of my duties to prepare numerous engineering studies and reports covering the operations and property of the following companies:

Arkansas Natural Gas Corporation

Arkansas Louisiana Gas Company

Arkansas Fuel Oil Company

Arkansas Pipeline Corporation

Arkansas Louisiana Pipeline Company

Reserve Natural Gas Company of Louisiana

Southern Cities Distributing Company

Public Utilities Corporation of Arkansas

Little Rock Gas & Fuel Company

Bethany Oil & Gas Company

Natural Gas & Fuel Corporation

Louisiana Oil Corporation

Louisiana Oil Refining Corporation.

These duties also included the preparation of inventories and appraisals of oil and gas producing properties, oil pipe-line systems, gas pipe-line systems, oil refineries, natural gasoline extraction plants, propane and butane extraction plants, wholesale and retail gasoline and petroleum marketing facilities, gasoline filling stations, bulk stations, natural gas distributing systems, and similar properties.

During this time I also prepared estimates of the cost of construction of natural gas property and upon completion of the construction made comparisons of the estimates with the actual expenditures. I have prepared detail analyses of costs of construction of some fifteen hundred miles of natural gas and oil pipelines of diameters from 2" to 20" and a number of oil pipe-line pump stations and natural gas compressing stations.

During the period of my employment by the Arkansas Natural Gas Corporation or subsidiary companies, the group of companies expended upwards of forty million dollars for construction purposes, all of which I was in some respect concerned with, for the work previously mentioned was related to the operations of all of the companies. During the construction of the Stuttgart Arkansas gas distribution plant in 1929, I acted as an assistant to the superintendent of construction and was in direct and active charge of the material records, time-keeping, and payrolls for the construction crew of approximately 150 men. I assisted in the field work in connection with a survey of a natural gas distribution plant for the purpose of determining the amount of leakage and unaccounted for gas and prepared reports indicating the cost of reducing leakage and determined the savings resulting therefrom. While in the Rate and Valuation Department of the companies, my duties also included the preparation of depletion, depreciation and amortization studies of natural gas production, transmission and distribution property. I also prepared engineering studies relative to the service life of natural gas property, the causes of removal of natural gas property from service and compiled data relative to the rates of replacement of natural gas pipe lines due to physical deterioration and other causes. During 1936 and 1937 I initiated and directed the preparation of engineering studies

for the purpose of determining the necessary annual accruals for depletion, depreciation and amortization of the property of the group of companies previously mentioned and, together with independent engineers retained by the company, made recommendations to the management thereupon. The property involved in this study was in excess of 100 million dollars. During 1935 I was responsible for the compilation of engineering reports submitted by an oil pipe-line subsidiary, for filing with the Interstate Commerce Commission under that Commission's Depreciation Order.

As rate engineer for the Arkansas Natural Gas Corporation and its subsidiary companies, it was my responsibility to prepare engineering reports in connection with the formulation of natural gas rates and rate structures of the group of companies. For this purpose, I prepared statistical analyses of the frequency and distribution of various sizes of gas bills and of the annual and monthly gas consumption per customer for various classes of customers in a number of gas plants. I prepared reports of the characteristics of various types of gas loads involving study of the relation of temperature or degree day deficiency to space heating loads, made analyses of coincidental demands on gas pipeline systems, studies of diversity factors and load factors both on pipe-line systems and distribution plants.

I have prepared complete studies of the cost of rendering gas service including allocation studies necessary in determining the cost of service to individual customers. Such studies involved determination and detailing of incremental costs, determination of average system costs, limits of common cost zones, the study of the causes and source of the costs and bases for allocating the costs to various classes and kinds of gas service. One of these studies was presented in the Federal District Court for the Western District of Arkansas on behalf of the Arkansas Louisiana Gas Company in a natural gas rate litigation involving the City of Texarkana, Arkansas. The method of allocation presented was used by the special master hearing the case, was followed by the Judge in the Federal District Court, and was upheld in the Court of Appeals and in the United States Supreme Court.

Recent rate changes involving the installation of promotional type gas rates in some 18 cities and communities in the State of Arkansas, including the Cities of Little Rock and Pine Bluff, Arkansas, were the result of studies made by me in cooperation with the Department of Public Utilities for the State of Arkansas.

It has been a part of my duties to appear before regulatory bodies in connection with investigations being made into the operations of the companies with which I was connected, and attend hearings and present engineering evidence for the purpose of establishing natural gas rates. I have also appeared before representatives of the Bureau of Valuation of the Interstate Commerce Commission in connection with the determination by that Commission of the valuation of an oil pipe-line system of one of the companies.

I have also appeared in the Federal Court of the Western District of Louisiana in a case involving the determination of the fair value of industrial property.

During the course of my employment with this group of companies, there was initiated under my direction a system of continuous engineering property records for the natural gas property of the companies, the total property for which the records were established being approximately 50 million dollars.

In 1935-1936 I prepared special engineering reports for the use of the management in connection with the reorganization of the Louisiana Oil Refining Company under Section 77-B of the Bankruptcy Act.

I entered the employ of the Federal Power Commission in 1938 as Senior Gas Engineer, soon after the passing of the Natural Gas Act and have been continuously thus employed since that time. A part of my duties consist of engineering studies and investigations of the operations of a number of natural gas companies. Reference to the Dockets which have been set by the Commission indicates the scope of this work since that time.

As Senior Engineer in the Washington office of the Commission, it has been my additional responsibility to act in

the place of the Chief of the Division of Gas Engineering of the Commission, who directs the work of all of the gas engineers in the employ of the Commission, during his absence. These general responsibilities have widened the field of my duties, necessitating some measure of familiarity with the operations of practically every interstate natural gas pipeline company under the jurisdiction of the Commission."

Q. Have you completed the reading of your written statement of qualifications, Mr. Lyon?

A. I have.

Q. You stated that you are presently employed by the Federal Power Commission as a gas engineer?

A. That is correct.

Q. In connection with that employment, have you had occasion to prepare and did you prepare any study or exhibits on the subject of cost of service in connection with this present proceeding?

A. Yes, I have.

Q. I will ask you whether this is the exhibit that you prepared?

A. That is correct.

Mr. Lange: Mr. Examiner, this exhibit has an appendix. I think it might be practical to, in the same fashion that this appendix be an "A" number of the exhibit.

The Trial Examiner: Very well, Mr. Lange. Did you state the title of the document?

Mr. Lange: "Allocation of cost of Service for the Year 1939, Canadian River Gas Company and Colorado Interstate Gas Company."

Will the reporter please mark the exhibit for identification?

The Trial Examiner: It will be marked for identification as Exhibit 226.

(Exhibit 226, Witness Lyon, marked for identification.)

The Trial Examiner: And the appendage thereto?

Mr. Lange: The index will be 226-A, the appendage.

The Trial Examiner: Is that an index or is it an appendix?

Mr. Lange: It is an appendix.

The Trial Examiner: It will be marked for identification as Exhibit 226-A.

(Exhibit 226-A, Witness Lyon, marked for identification.)

By Mr. Lange:

Q. Mr. Lyon, did you in connection with the preparation of that exhibit also prepare a written statement describing the nature and contents of the exhibit?

A. I have.

Q. Will you please read that written statement into the record?

Mr. Spencer: I presume, Mr. Examiner, it is unnecessary to renew my usual statement about reading.

The Trial Examiner: We will have that understanding, Mr. Spencer.

Mr. Lange: Yes, that will be definitely understood.

Mr. Spencer: Thank you.

Mr. Lange: All right, Mr. Lyon, you may proceed to read your written statement.

The Witness: "This exhibit entitled "Canadian River Gas Company and Colorado Interstate Gas Company, Allocation of Cost of Service, Year 1939" has been compiled and is presented to show the cost to the Canadian River Gas Company and Colorado Interstate Gas Company, combined, of supplying natural gas to its customers, and to determine by allocation and apportionment the amount of the total aggregate costs experienced by these two companies during the year 1939, attributable to the gas service rendered to each of the groups served from these same facilities. The necessity for an exhibit such as this arises by reason of the fact that the several customers of these companies jointly use the same gas plant and depend for gas service upon the same pipeline facilities and gas supply.

Table 1, entitled "Summary of Cost of Service and Comparison with Revenues," reflects in columns 3 to 10, in-

clusive, the total cost of service (\$3,406,857.99) as summarized in Table 4 as to the customer or groups of customers designated (column 1), at the several delivery points (column 2), and shows in column 11 the adjusted operating revenues (total \$6,036,276.35) received, as to each customer, and credits for gas utilized in operations, on deliveries of gas during the year 1939.

Amounts in column 3 represent the allocation of cost for all gas produced at well heads, the description of the total cost (\$1,051,721.34) being shown in Table 5. In this latter table is developed the unit cost per mcf of \$0.02196 (actually \$0.021956777) on 47,899,622 mcf of gas produced and made available for sale during 1939. The amounts in Table 1, column 3, relating to the respective customers or groups of customers are derived by multiplying the deliveries in mcf as shown in Table 2, column 6, by the unit cost (\$0.021956777) per mcf developed in Table 5.

Amounts in Table 1, column 4, represent the cost of production system gathering of gas, the description of the cost (\$170,628.03) being shown in Table 6. In this latter table is developed the unit cost per mcf of \$.00396 (actually \$.003959818) on 43,089,864 mcf of gas gathered, which excludes 4,809,758 mcf of gas of the total gas produced, covering direct well head deliveries to Amarillo Oil Company. The amounts in Table 1, column 4, relating to the respective customers or groups of customers are derived by multiplying the deliveries in mcf as shown in Table 2, column 6, excluding deliveries to Amarillo Oil Company, by the unit cost (\$.003959818) per mcf developed in Table 6.

Amounts in Table 1, column 5, represent the results from production system residuals refining (gasoline extraction) operations, effecting a credit of \$169,144.37 to cost of service, as detailed in Table 7. \$118,508.69 and \$15,056.24 of the total credit amount shown in Table 1, column 6, are direct allocations to Natural Gas Pipeline Company of America (line 53) and Amarillo Oil Company (line 55) respectively; these amounts relate exclusively to these customers. The remainder of the total credit amount (\$35,579.44) is allocated in Table 1, column 6, solely to customers on the

Denver Line, lines 1 to 50 inclusive, by multiplying the deliveries in mcf as shown in Table 2, column 6, lines 1 to 51 inclusive, by the unit cost, \$.00163 (actually \$.0016299207) per mcf developed in Table 7, line 23.

Amounts in Table 1, columns 6, 7, and 8, constitute the cost of gas transmission totaling \$2,265,650.63, the details of which are contained in Table 8. The amounts in Table 8 are further separated to show those costs allocable on the basis of: (1) mcf sales deliveries shown in column 4, "Volumetric Costs," (2) maximum daily deliveries shown in column 5, and (3) rental of leased facilities shown in column 6.

Amounts in Table 1, column 6, to \$673,427.50, related to the respective customers, are derived by multiplying the sales deliveries in mcf as shown in Table 2, column 6, by the unit cost, \$.030850 (actually \$.03085021676) per mcf, developed in Table 8.

Amounts in Table 1, column 7, totaling \$611,641.80, related to the respective customers, are derived first by application of the percent (44.917%) developed in Table 2, column 7, line 51, to the total (\$1,361,715.60) shown in Table 8, column 5, line 30, the product being \$611,641.80, the transmission cost of service allocable to customers on the basis of system maximum day deliveries. Secondly, the unit cost per mcf involved in this allocation amounts to \$14.33423482, obtained upon division of the total cost of service, \$611,641.80, by the total, 42,670 mcf, shown in Table 2, column 7, line 51. The unit cost thus developed was applied to the mcf system maximum daily delivery shown for each of the customers in Table 2, column 7, lines 11 to 45 inclusive, to obtain the amounts shown in Table 1, column 7, lines 10 to 44 inclusive.

Amounts in Table 1, column 8, totaling \$750,073.80, related to the respective customers, are derived first by application of the percent (55.083%) developed in Table 2, column 8, line 51, to the total (\$1,361,715.60) shown in Table 8, column 5, line 30, the product being \$750,073.80, the transmission cost of service allocable to industrial customers on the basis of individual maximum day deliveries. Secondly the unit cost per mcf involved in this allocation

amounts to \$10.62171715, obtained by division of the total cost of service, \$750,073.80, by the total 70,617 mcf, shown in Table 2, column 10, line 51. The unit cost thus developed was applied to the mcf individual maximum daily delivery shown for each of the customers in Table 2, column 10, lines 9 to 45 inclusive, to obtain the amounts shown in Table 1, column 8, lines 1 to 44 inclusive.

In Table 1, line 53, between columns 7 and 8, is shown the amount of \$230,507.53, described in Table 8, column 6, line 7, as the joint expenses rental of leased facilities. This entire amount is applicable to deliveries to Natural Gas Pipeline Company of America.

Amounts in Table 1, column 9, represent the cost of distribution, totaling \$88,002.36, the details of which are contained in Table 9. The amounts in Table 9 are further separated to show first those costs allocable equally per customer in column 4, and secondly those costs allocable upon the ratio of adjusted book cost of plant at December 31, 1939, in column 5; while the second page of Table 9 shows the proportionate allocations in columns 4 and 5 to the respective locations of service and reflected accordingly in Table 1, column 9.

Amounts in Table 1, column 10, are the totals of respective amounts in columns 3 to 9 inclusive, the sources of which have been explained in the preceding paragraphs."

By Mr. Lange:

Q. Mr. Lyon, have you completed the reading of your written statement in connection with that exhibit?

A. I have.

Q. Mr. Lyon, did you in connection with your assignment in this particular proceeding prepare another exhibit on allocation of cost of service in connection with the Colorado-Wyoming Gas Company?

A. I have.

Q. Is this the exhibit I now show you?

A. That is correct.

Mr. Lange: Will the reporter please mark that for identification?

The Trial Examiner: It will be marked for identification as Exhibit 227.

(Exhibit 227, Witness Lyon, marked for identification.)

Mr. Spencer: There is no appendix to this one?

Mr. Lange: No appendix to this one, Mr. Spencer.

Q. Mr. Lyon, in connection with this particular exhibit, did you also prepare a written statement explaining its contents?

A. I did.

Q. Will you please read that statement into the record?

A. "This exhibit entitled "Colorado-Wyoming Gas Company, Allocation of Cost of Service, Year 1939" has been compiled and is presented to show the cost to Colorado-Wyoming Gas Company of supplying natural gas to its customers, after adjusting the cost of gas purchased from the Colorado Interstate Gas Company to that determined in the previous exhibit No. 226, entitled "Canadian River Gas Company and Colorado Interstate Gas Company, Allocation of Cost of Service, Year 1939." This exhibit also determines by allocation and apportionment the amount of such total costs during the year 1939 attributable to the gas service rendered to each of the groups that were served from its facilities. The necessity for an exhibit such as this arises by reason of the fact that the several customers of this company jointly use the same gas plant and depend for gas service upon the same pipeline facilities and gas supply.

Table 1, entitled "Summary of Cost of Service and Comparison with Revenues," reflects in columns 3 to 10 inclusive, the total cost of service (\$599,153.84) summarized in Table 4, as to the customer or groups of customers designated (column 1), at the several delivery points (column 2), and shows in column 11 the adjusted operating revenues (total \$828,941.30) received, as to each customer, on deliveries of gas during the year 1939.

Amounts in Table 1, columns 3 to 5 inclusive, represent the allocation of the cost for all gas purchased for resale, a total amount of \$358,385.63; as detailed in Table 5. In Table 1, the total of column 3 is \$158,847.03, as shown in

the "Recapitulation of Cost," in Table 5; and this amount has been allocated to customers and groups of customers by application of the unit cost per mcf ($\$158,847.03 \div 2,839,717 = \0.0559376268) to the respective mcf sales deliveries of gas shown in Table 2, column 6.

In Table 1, the total of column 4, $\$407,540.98$, is *detained* in Table 5, as $\$106,532.03$ on line 5, plus 53.89% of $\$1,872.24$ on line 8 ($\$1,008.95$). The sum thereof has been allocated to customers and groups of customers by application of the unit cost per mcf ($\$407,540.98 \div 7,014 = 15.3323324$) to the respective mcf maximum day deliveries of gas shown in Table 2, column 7.

In Table 1 the total of column 5 is $\$91,997.62$, as detailed in Table 5, $\$91,134.33$ on line 6 plus 46.11% of $\$1,872.24$ on line 8 ($\$863.29$); which sum has been allocated to customers or groups of customers by application of the unit cost per mcf ($\$91,997.62 \div 10,512 = \8.75167179) to the respective mcf individual maximum day deliveries shown in Table 2, column 11.

In Table 1 the total of column 6, $\$70,599.44$, volumetric transmission cost of service, as detailed in table 6, column 4, has been allocated to customers and groups of customers by application of the unit cost per mcf shown in the latter table, $\$.024861$ (actually $\$.02386143513$) to the respective mcf sales deliveries of gas shown in Table 2, column 6.

In Table 1 the total of columns 7 and 8 is $\$149,920.91$, being the capacity transmission cost of service, as detailed in Table 6, column 5. The total of column 7 in Table 1, $\$75,201.83$, represents 50.161% of $\$149,920.91$, using the ratio shown at the bottom of column 7 in Table 2, and was allocated to customers and groups of customers by application of the unit cost per mcf ($\$75,201.83 \div 7,014 = \10.72167522) to the maximum day deliveries shown in Table 2, column 7. The total of column 8 in Table 1, $\$74,719.08$, represents 49.839% of $\$149,920.91$, using the ratio shown at the bottom of column 10 in Table 2, and was allocated to customers and groups of customers by application of the unit cost per mcf ($\$74,719.08 \div 10,512 = \7.107979452) to the respective individual maximum day deliveries shown in Table 2, column 11.

In Table 1 the total of column 9, \$20,247.86, is the distribution cost of service as detailed in Table 7, first page; whereas the second page of this statement shows the allocation to customers.

The amounts shown in Table 1, column 10, are totals of the respective amounts in columns 3 to 9 inclusive, the total of which is \$599,153.84, the aggregate cost of service set forth in Table 4."

Q. Have you completed the reading of your written statement in connection with this exhibit, Mr. Lyon?

A. I have.

Q. Now, Mr. Lyon, in connection with your cost of service study that you have prepared and particularly with reference to the previously named and numbered exhibits, 226 and 227, I will ask you whether you have prepared a summary of such cost of service for the years 1937, 1938 and 1939 as applying to Canadian River Gas Company, Colorado Interstate Gas Company, as well as Colorado-Wyoming Gas Company?

A. Yes, I have.

Q. As I understand it, this summary that you have so prepared is not an essential part nor is it necessary to the consideration of the aforementioned two exhibits, 226 and 227?

A. That is correct, it is not essential.

Q. And it was prepared by you primarily for the purpose of giving a spread over the three years named?

A. That is correct.

Q. And will you indicate briefly what your purpose was in preparing such summary?

A. There is included in this exhibit two parts. The first part applies to the combined Canadian River Gas Company and Colorado Interstate Gas Company. The second part applies to the Colorado-Wyoming Gas Company. The two parts are wholly separate.

Q. And included in the instrument purely for mechanical purposes for brevity, but they do not necessarily appear in a combined instrument?

A. That is correct.

Q. Now, is there any other statement you wish to make with reference to that?

A. The first page in this exhibit is entitled "Written Statement."

Q. Will you please read that into the record?

A. "This exhibit has been compiled and is represented to show for the consolidated Canadian River Gas Company and Colorado Interstate Gas Company System, and for the Colorado-Wyoming Gas Company System the total cost of service of each functional division determined in the same manner as was done in other exhibits for the single year 1939."

Q. Now, the two exhibits you are referring to are Exhibits 226 and 227?

A. That is correct.

Mr. Lange: I have overlooked. I want this instrument identified by the reporter.

The Trial Examiner: It will be marked for identification as Exhibit 228.

(Exhibit 228, Witness Lyon, marked for identification.)

By Mr. Lange:

Q. This is the summary exhibit that I am now showing you that has just been identified by the stenographer as Exhibit 228?

A. That is correct.

Q. Now, if you will complete the reading of that written statement appearing on the title page, Mr. Lyon.

A. "This exhibit is presented for the purpose of showing the fact that the unit costs, resulting from the operations of these companies for the year 1939, also approximate the average for the three years 1937, 1938, and 1939. The following tabulation shows in summary form a comparison of costs determined from the operations of these companies for the year 1939, as compared with similar costs for the three-year period:

**"Canadian River Gas Company and Colorado
Interstate Gas Company.**

	Average for Years 1937, 1938, 1939	Year 1939
Cost of Gas at the Wellhead .....	.02124	\$.02196
Cost of Production System Gathering.....	.00396	.00396
Cost of Residuals Refin- ing (Amarillo Oil Co.)	(.0032)	(.0031)
Cost of Residuals Refin- ing (Denver Line).....	(.0015)	(.0016)
Cost of Residuals Refin- ing (Chicago Line).....	(.0054)	(.0057)
Cost of Transmission— Volumetric Costs .....	.031522	.03085
Cost of Transmission— Capacity Costs	1,313,903.39	1,361,715.60
Rental of Leased Facil- ities—Cost	220,337.34	230,507.53
Cost of Distribution.....	85,608.05	88,002.36

"Colorado-Wyoming Gas Company

	Average for Years 1937, 1938, 1939	Year 1939
Cost of Transmission— Volumetric Costs.....	.026553	\$.024861
Cost of Transmission— Capacity Costs	154,249.97	149,920.91
Cost of Distribution.....	18,157.87	20,247.86

"All statements made in connection with the preceding exhibits, relating to the year 1939 as to methods of compilation, sources of information, and allocations, apply with equal force to the tables in this exhibit."

Q. That completes the written statement on the title page of the exhibit, Mr. Lyon?

A. That is correct.

Q. I have one question to ask you with reference to Exhibit 227. Turn to Exhibit 227, Table 5, Mr. Lyon, the page entitled "Colorado Wyoming Gas Company, Summary of Cost of Gas Purchased for Resale, for the year 1939." In what sense do you use the word "resale" on that table, as well as anywhere else in the exhibit?

A. The use of the words "gas purchased for resale" means all of the gas purchased by this company for resale, regardless of whether it is direct to customers or to distribution plants for redistribution and resale.

(Vol. LXXIV, pp. 10930-10954.)

Q. I am assuming that you had to do with all of these things that you mentioned here. You made a study of the load factors, both on pipe line systems and distribution plants. What is the significance of the load factor?

A. You mean you want me to define load factor?

Q. You can if you wish. I mean the significance of making a study of it. I mean, why do you do it? Why do you bother with it?

A. Load factor is the ratio of the average load over a designated period to the peak load occurring in that period.

Mr. Lange: What are you reading from?

The Witness: The Federal Power Commission Glossary of Important Power and Rate Terms, Abbreviations, and units of Measurement.

By Mr. Dougherty:

Q. That would apply whether it is a daily load factor or monthly or yearly load factor?

A. The qualifying term hourly, daily or yearly, is a limited definition of the general term "load factor."

Q. Why bother with load factor? What is the significance of it in the natural gas business and in the studies you have made of the Arkansas-Louisiana?

A. The load factor of gas deliveries is a matter of consequence in determining the cost of rendering the service.

Q. That is, a customer that takes gas on a load factor of 100 per cent can be served with less expense by a gas company than if that load factor is fifty per cent?

A. That is a very broad statement. Generally I would say it would be true.

Q. As you say, load factor has to do with the cost of service?

A. That is correct.

Q. And a poor load factor means you have to provide adequate facilities to furnish the peak, during the average periods that full facilities are not being utilized?

A. If you were speaking of a pipe line system with one company as its customer, delivering gas at one plant.

Q. That is what I am talking about. That is the significance of the load factor, if you had a lateral running to one industrial customer?

A. When you mention lateral, you presuppose there are additional other customers connected to the same pipe line being served from the same source of supply?

Q. That may be so, but on your whole pipe line if you have a 100 per cent load factor you have greater expense of service than if your load factor is 50 per cent?

A. I am afraid your question is broad. I can limit them because the matter of diversity is a matter of consequence and diversity affects load factor.

Q. I am talking about one customer. I will assume, to help you out, that there is no diversity and that all customers on the line have the same load factor and all go up and down at the same time. That makes it simple, doesn't it?

A. Yes.

Q. So with that condition 100 per cent load factor business could be served at a lesser cost than 50 per cent load factor business?

A. I believe so, yes, without application to any specific conditions.

Q. So that in general that is the significance of load factor, not only in your studies or in any studies, it has to do with the cost of service?

A. Principally.

Q. Now, your question of diversity, how did you apply that in your study you made for Arkansas-Louisiana?

A. The diversity of the various classes of service, of course, are a matter of interest to the management. They attempt to improve the load factor of the system.

Q. By what you term a diversity factor you can better your load factor?

A. Yes.

Q. For example, if on your system you have a certain percentage during the day when there is idle capacity and you get some piece of business during that period of the day to fill it up, that brings diversity of load into your picture, doesn't it?

A. I am afraid I don't understand that question.

Q. Instead of putting it on a per-day basis, let's put it on a yearly basis. Suppose in the summertime on your gas system when your domestic load is down you have a certain amount of capacity in your transmission and compressor system, and you want to get some other type of business.

A. You are seeking additional load for the system?

Q. Yes.

A. Of course, the capacity is not then being utilized for carrying of gas and if you have a customer that can take gas during those periods, then you have capacity which you can sell if you have an available supply.

Q. Isn't that where the point of diversity comes in, you are getting a different kind of load to fill in different periods when the principal and basic load is not utilizing the system?

A. I speak of diversity generally as related to groups of the same class of service and you are speaking of diversity, as I gather, by different classes of service.

Q. That is load on the pipe line—

A. Domestic service is a class of service and there is a certain amount of diversity between domestic customers using gas, we'll say, for cooking and water heating. It is a very very fine diversity but when you speak of diversity between summer and winter that would be generally the diversity between two classes of service.

Q. As applied to a long distance transportation system, that is the factor of diversity that is important there, rather than whether everybody cooks their breakfasts at the same hour in the morning?

A. I wouldn't want to say what the most important factor was in transmission systems for diversity.

Q. You can apply the diversity factor to the thing I mentioned, that is, difference of characteristics of load as between different classes of customers and classes of service that come on at different times in the year.

A. Will you please read that question back?

(The question referred to was read by the reporter as set forth above.)

The Witness: I am sorry, but I don't follow you.

Mr. Dougherty: Strike it out.

Q. You mentioned having made some studies on the cost of rendering service and say that these studies involved the determination of incremental costs. What do you mean by that?

A. The incremental cost is the additional expenses or costs incurred to existing facilities—strike that.

Incremental costs are the additional costs to those already being incurred.

Q. The additional costs which you say are incremental costs are incurred by reason of what?

A. I was giving a broad definition. The incremental costs could be of any nature incurred in addition to similar costs already being incurred.

Q. Why do you make the study?

A. Why?

Q. Why do you make the study of incremental costs? What is the purpose?

A. To determine additional expenses.

Q. Of what?

A. For any purpose.

Q. What purpose? Enumerate some purpose. You don't do it as a mathematical pleasure, do you? You must have some reason as a gas engineer for doing it.

A. You mean as applied to natural gas production?

Q. No, any type of natural gas business, any feature of it.

A. Natural gas production?

Q. Natural gas production, gathering or production.

A. We will take production. The incremental cost of natural gas production would be the additional cost of producing additional quantities of gas beyond those now being produced.

Q. What is the purpose of trying to find that out when you make a study so that you might know, or is there some practical reason for it?

A. Well, the purpose generally, I would state, of expanding the markets of the production of gas.

Q. I assume you made some of the studies on the Arkansas-Louisiana system? That is what you say?

A. Natural gas production?

Q. I don't know. You say here—

A. I believe I have made some studies on gas production that would include incremental costs, yes.

Q. Wouldn't that type of a study be made if natural gas companies produced gas with adequate facilities had an opportunity to sell additional quantities, say, to some other than existing customers?

A. Of course if you had facilities that are adequate, you have no incremental cost.

Q. I wasn't quite finished with my question.

And that you wanted to find out whether you could supply this additional customer gas at a price which that customer was willing to pay, then you would determine how much additional cost might be involved; and having made that determination, that is what you would call the incremental cost involved in serving this additional customer?

A. I don't follow that question.

Q. Suppose you are in the natural gas business and want to take gas from the Panhandle field to any place you might select and you come to the Canadian River Gas Company and say, "I want to buy 50 million feet a day." Is that clear?

A. No, it isn't. Are you already taking gas from the Panhandle field?

Q. You are not, no. You are a brand new man in the gas business.

A. And I desire to secure a supply of gas in the Panhandle field?

Q. That is right. You come to the Canadian River Gas Company and say that you want 50 million feet a day and that you are willing to pay a certain number of cents for it. Then the rate engineer or somebody for the Canadian River Gas Company would determine how much additional costs would be involved in supplying you with that 50 million feet a day. They would consider all of the existing facilities, what they were, what the capacity was, how many, if any, additional wells would be drilled, what additional op-

erating expenses, and so forth, would be. Would that then be the determination of incremental costs with respect to your proposed purchase of gas from Canadian River Gas Company?

A. It would be an incremental cost to the Canadian River Gas Company.

Q. That is right. That is correct?

A. As I understand it, and I believe I do.

Q. That is the way I understand it so we are in agreement.

What about the use of incremental costs on the sale from pipe lines; for example, to a large industry in Louisiana or Arkansas off the Arkansas-Louisiana system that would take substantial quantities of gas but were unwilling to pay a very high price for it. How would you determine the question of incremental costs involved in serving that large industrial customer?

A. If they were not willing to pay the cost, then the determination of cost would be of no consequence.

Q. I didn't say whether the price they were willing to pay would be the cost or not, but they give the amount or furnish the company with the number of cents they are willing to pay. How would you go about determining the incremental costs that might be involved in serving that customer?

A. You determine the additional expense that the company would be put to in addition to those expenses it is now incurring to attach this customer, but the study would be hypothetical and of no value if the customer were not willing to pay the cost.

Q. That is the incremental cost and something plus. That is what you mean?

A. It would be hypothetical if the customer were not willing to pay the cost of service of that system.

Q. Let me get that clear. If the particular system in question did have sufficient capacity to serve this industrial customer because of the characteristics of its already existing load without having to put in any additional pipe line capacity, but it of course has to buy its gas—Just for the sake of illustration, suppose that that pipe line company has to pay 10 cents per Mcf. for its gas and it has to make no additional compressor installations, it has to

make no additional pipe line installations except as involved in connecting up the customer in the metering station; let's assume for the sake of this example that those additional expenses amount to 2 cents per Mcf. on the basis of the period of the contract—that would bring us to 12 cents, wouldn't it?

A. That is correct.

Q. That would be what you would call your cost of service—

A. No.

Q. Let me finish. —on the incremental basis?

A. That would be the incremental base but it would be grossly discriminatory to the existing customers.

Q. That would be the incremental cost—

A. It would be the additional expense which the customer was put to and would not represent the cost of service to that customer.

Q. I am not arguing that. You answer my questions.

If we get to arguing it will take too long.

Mr. Lange: I think he can answer your question.

Mr. Dougherty: He was starting into a dissertation of what his opinion was about it.

Mr. Lange: I think he has the right to explain what he means by his answer. I don't think his answer was argumentative.

Mr. Dougherty: He was explaining something that I hadn't asked him about.

Mr. Lange: I think it was very pertinent for him to explain what he meant by his answer.

Mr. Dougherty: We were talking about incremental costs—

The Trial Examiner: I think the difficulty that appeared was that Mr. Lyon sort of anticipated the question Mr. Dougherty was asking and didn't wait until Mr. Dougherty finished his question.

Mr. Dougherty: That question won't be asked until 11:00 o'clock this morning.

Mr. Lange: Mr. Lyon wanted to finish his answer.

The Trial Examiner: He will be given an opportunity to complete his answer.

By Mr. Dougherty:

Q. Mr. Lyon, you have very properly stated in your application you made studies involving the determining of incremental costs and I know you are amply qualified to do that. I am just trying to get for the record what sort of a study it was. Will we agree what I mentioned will be a statement of incremental costs to the pipe line company involved in serving that customer?

A. To the facilities already installed, yes.

Q. Under the circumstances, couldn't we say that 12 cents is the incremental cost involved in serving that customer? Just be fair about it.

A. I think so as I understood your question.

Q. If that pipe line company or if the industrial customers were willing to pay 15 cents, the pipe line company would be making three cents over and above its incremental cost, wouldn't it?

A. That would be correct, yes.

Q. That is what you mean by incremental costs.

When you get to the determination of average system costs—that is what you have done in this report, isn't it? I have reference to Exhibit 226.

A. Those costs are averages, yes. I wouldn't say they were average system costs.

Q. I will take that up in detail with each system later. Except for transmission, I believe you agree they are average system costs?

A. It is an average cost of the gas at the wellhead and is an average cost of the gathering—

Q. If the word "system" means the production system or gathering system, that is the system cost?

A. That is correct.

Q. Going back to the question I asked you about incremental costs in determining it, then after we had connected this new industrial customer—we will say it is a great national defense industry in Colorado—in determining the average system cost you would average that—your theory would be to forget the incremental cost feature of it?

A. I think the incremental cost feature should be forgotten.

Q. You don't believe in it in the first instance?

A. I believe incremental costs are for use only for the purpose of determining increased business and in determining the cost of service itself it is necessary to consider the existing load as well as the additional load.

Q. You also say that you made studies on limits of common zones. What do you mean by that?

A. A common zone is a territory or area in which average costs may be applied without discrimination.

Q. In connection with the Arkansas-Louisiana system, do they have all their property segregated into cost zones, that is, a number of them?

A. I don't understand that. A cost zone is an engineering study. The facilities are constructed and are in place in certain positions.

Q. To illustrate what I have in mind, I will put it on this basis: If you got on a streetcar where they had an average factor over the whole system, whether you rode two blocks or two miles you would pay the same fare; where a streetcar company has a zone system, then, when you ride within one zone you pay one fare, and if you go beyond that zone you pay two fares. In connection with the Arkansas-Louisiana Gas Company where they have town border rates in effect, do they have different distances or zones within which zone the same town border rates apply?

A. They do not have town border rates to presently-owned plants. Prior to the formation of the present corporation they did have a city gate rate and that gate rate was uniform.

Q. Over the whole state of Arkansas?

A. There were some exceptions but generally speaking it was uniform. I believe there were some exceptions with respect to those customers—those plants, which they served wholesale.

Q. When you use the term "common zone" you take a zone and then average the cost within that zone? Is that what you mean by common zone?

A. You are not only averaging it but the premise is that you may average it without discrimination.

Q. Yes, that is what I mean. For example, take the Colorado Interstate Gas Company. Suppose it desired to make Colorado Springs and Denver a common zone; then you would average those zones and because you had already

assumed it would be a common zone you would conclude there was no discrimination?

A. That is correct.

Q. Or if we wanted to make Denver a separate zone, Colorado Springs a separate zone, and Pueblo a separate zone, each one would be considered separately?

A. The premise would be that they were not a common zone territory or a common zone.

Q. As I understand the way you have treated the Colorado Interstate Gas Company, you have considered it as one common zone?

A. I have treated it as a single project, a single enterprise.

Q. That would be one common cost zone?

A. The construction of the operation of the various parts are so interwoven that it is not reasonable to segregate—

Q. All I am asking you is this: Isn't it true you have considered the Colorado Interstate Gas Company as one common zone? You have not divided it into more than one common cost zone?

A. The transmission system, that is correct.

Q. You have treated it just as it was a pool and everything was coming out with common averaging of costs with load factor—I mean demand day involved?

A. I have treated the transmission system as a single enterprise and have applied the common costs as the basis of determination to all points of delivery in that system.

Q. Now, you speak of a cost study that was submitted in a rate case involving the City of Texarkana. Do you have a copy of the study as you submitted it?

A. I do not.

Q. Could you get me one?

A. I would have to go to the court records to obtain one.

Q. You don't have one in your personal files?

A. No, I don't keep records of those things.

Q. With respect to Exhibit No. 226, you have shown in there—take Table 1 for example, under Production Expense, Cost of Gas At Wellhead, Item 3, the basis for that as I take it is Statement 5, that is, the total on Statement 5, Canadian River's \$1,051,721.34 is the same?

little

A. The figure \$1,051,721.34 shown on Line 37, Table 5, is the sum of Lines 1 to 36, inclusive, being all of the figures on that table. In addition to the adjusted expenses determined by the Examiners of the Commission, this exhibit includes, as an element of the cost of service, an amount calculated at 6 per cent per annum on the average net adjusted book cost of gas plant in service during the year 1939 as Return on Property In Service; and an additional amount calculated at 6 per cent per annum on the amount of Working Capital, determined in the exhibits submitted by Examiners of the Commission. These amounts for return are likewise included without prejudice as to the proper amounts which may be allowed and have been adopted in this exhibit for the purpose of presenting a complete statement of the cost of service.

Q. You have answered more than I have asked you but let's get back to the operating expense figures as applied to the cost of gas at the wellhead.

The breakdown that you have on Table 5 is not found in any previous exhibit, is it?

A. Yes.

Q. In that form?

A. Not in the same form.

Q. That is what I asked you. I said that the breakdown as you have it on Table 5 is not found on any other exhibit, is that right?

A. There is no new information in here. I may have summed or totaled two figures together in an accounting report.

Q. Will you tell me what exhibit I can find the replica of Table 5?

A. You mean an exact duplicate?

Q. Yes, that is what I asked you.

A. There is no exhibit as far as I know.

Q. Table 4 has the dollars the total dollars which you have taken from Mr. Smith's Exhibit 185?

A. That is not a replica of Mr. Smith's exhibit either.

Q. I did not ask you that. I said that it has the figures which you took from Exhibit 185.

A. That is correct, the same way Table 5 has the figures that were taken—